

# American **FRUIT GROWER**



GET THE BEST TIRE for Year-'round Traction  
GET THE RIGHT TIRE for Your Kind of Soil

# CHOOSE A CHAMPION

OPEN CENTER OR TRACTION CENTER

# Firestone



**F**OR spring plowing in soft ground you need a tire that stays clean . . . For fall work in hard ground you want one that bites through and takes hold . . . And for any kind of work any day in the year, you'll find that a Firestone Champion beats them all.

Which Champion? . . . Either one, but let the soil conditions on your farm determine whether the Open Center or the Traction Center is best for you. Both tires give you these extra traction features—

- ★ **Curved bars** to cup the soil for a sure, firm hold.
- ★ **Extra bar height** for deeper soil penetration.
- ★ **Extra bar length** for bigger soil bite.
- ★ **Flared Tread Openings** for positive cleaning action.

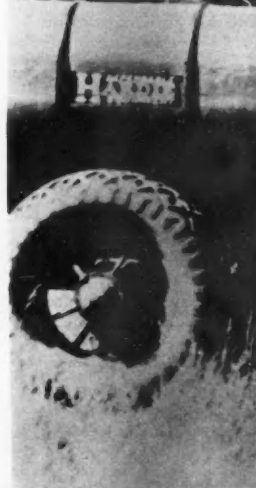
Only Firestone gives you all these features. Only Firestone gives you top traction performance in the tire of your choice — Open Center or Traction Center.

ALWAYS BUY TIRES BUILT BY FIRESTONE THE ORIGINATOR  
OF THE FIRST PRACTICAL PNEUMATIC TRACTOR TIRE

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## ***Profits grow on trees!***

Growing topnotch fruit calls for vigilant care from dormant season to harvest time. It also calls for good chemicals.

Dow works closely with the fruit grower to give him better, more effective spraying and dusting materials for complete control throughout the season. Dow products are backed by years of "know-how" in the manufacture of basic chemicals. The DOW DIAMOND stands for dependability, economy and maximum effectiveness. That's why you can rely on Dow for *all* the insecticides and fungicides you need for orchard protection.

In addition, Dow has developed, tested and marketed many other aids to better farming, including plant growth regulators, soil fumigants, wood preservative, grain fumigants and the new weed, brush and grass killers.

*Ask your supplier for . . .*

## **DOW Agricultural Chemicals**

**"MIKE" SULFUR** (more than 95% sulfur of microscopic fineness) wets instantly, gives superior finish to fruit, gives extra thorough coverage against apple scab and brown rot.

**FERRADOW** has proved itself in leading orchards as an effective control of scab, brown rot and other fungus diseases.

AGRICULTURAL CHEMICAL DIVISION

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

### **USE DEPENDABLE DOW AGRICULTURAL CHEMICAL PRODUCTS**

WEED, BRUSH AND GRASS KILLERS • INSECTICIDES  
FUNGICIDES • PLANT GROWTH REGULATORS  
GRAIN AND SOIL FUMIGANTS • WOOD PRESERVATIVE

# **DOW**

## **CHEMICALS**

INDISPENSABLE TO INDUSTRY  
AND AGRICULTURE

**Improved Design for Better Fit, Easier Wearing and  
better protection  
against  
PARATHION  
INSECTICIDES**



## AGRISOL RESPIRATOR

If you handle Parathion in any of its forms—dry or wet—you need the new **WILLSON AGRISOL RESPIRATOR** for effective protection against inhalation of its dust, mist or vapor.

The facepiece has been redesigned with a flexible, rolled edge giving a snug, comfortable fit, particularly across the bridge of the nose. A new style dual elastic headband on the respirator combines with the rolled edge to make this respirator dust-tight. The dust-filtering discs and vapor-absorbing cartridges are easily replaced.

Ask for these protective devices at your insecticide dealer's or write to us direct. Descriptive bulletins available.



*Dual filtering area assures ease of breathing. Filter disc held securely against exposed side of cartridge by threaded retaining ring. Complete with 2 cartridges and 12 filters . . . . .*  
**\$4.50 each**



*The WILLSON MonoGoggle adds necessary eye protection from front and sides. It is lightweight plastic with one-piece replaceable lens. Deep, flexible frame provides all day wearing comfort, even over prescription glasses . . .*  
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Established 1870

WILLSON PRODUCTS, INC. 118 Thorn St. Reading, Pa.

APRIL  
VOL. 71

1951  
No. 4

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### AMERICAN FRUIT GROWER

Published Monthly by  
AMERICAN FRUIT GROWER PUBLISHING CO.  
106 Euclid Ave., Willoughby, Ohio

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DENVER, McDonald-Thompson, 317 Railway Exchange Bldg. Phone—Main 2733

SUBSCRIPTION RATES  
Domestic, 3 years \$2.00. 1 year \$1.00. Single copy 10c. Canada and foreign \$1.50 per year.

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AMERICAN FRUIT GROWER



**APPLE**  
Aphids  
Bud moth  
Codling moth  
Forbes scale  
Grasshoppers  
Leaf rollers  
Mealybug  
Mites  
Plum curculio  
Red bug  
San Jose scale  
Scurfy scale  
Tortrix

**PRUNE & PLUM**  
Aphids  
Bud moth  
Leafhoppers  
Leaf roller  
Mealy plum louse  
Mites  
Plum curculio  
Tortrix

**CHERRY**  
Aphids  
Bud moth  
Cankerworm  
Cherry fruitworm  
Mites  
Oriental fruit moth  
Plum curculio  
Tortrix

**STRAWBERRY**  
Aphids  
Leaf roller  
Red spider mite

**PEACH**  
Cat-facing insects  
Cottony peach scale  
Fruit tree leaf roller  
Mites  
Oriental fruit moth  
Peach tree borer  
Plum curculio  
San Jose scale

**PEAR**  
Codling moth  
Mealybug  
Mites  
Pear psylla  
Woolly apple aphid

**APRICOT**  
Aphids  
Bud moth  
Codling moth  
Leaf roller  
Mites  
Oriental fruit moth  
Tortrix

**CABBAGE, BROCCOLI, BRUSSELS SPROUTS, KALE, MUSTARD, TURNIP, Etc.**  
Aphids  
Armyworms  
Cabbageworms  
Thrips

**EGGPLANT**  
Aphids  
Leaf miner

**SPINACH**  
Aphids

**ONION**  
Thrips

**CELERY**  
Aphids  
Celeryworms  
**CUCUMBER, SQUASH & MELONS**  
Aphids  
Cucumber beetle  
Melonworm  
Pickleworm  
Serpentine leaf miner

**PEA**  
Aphids  
**PEPPER**  
Aphids  
Serpentine leaf miner

**ARTICHOKE**  
Aphids  
Plume moth

**OKRA**  
Aphids

**LEGUMES**  
Aphids  
Armyworms  
Blister beetle  
Grasshoppers

**ORNAMENTALS**  
Aphids  
Leafhoppers  
Mealybugs  
Scales  
Spider mites  
Whiteflies

**PINEAPPLE**  
Mealybug

**CITRUS**  
Black scale  
California red scale  
Citricola scale  
Cottony-cushion scale  
Florida red scale  
Mealybugs  
Purple scale  
Snow scale  
Thrips  
Yellow scale

**SMALL GRAINS**  
Greenbug

**PEANUT**  
Velvetbean caterpillar

**SUGARBEET**  
Aphids  
Webworm

**HOPS**  
Aphids  
Red spider

**TOBACCO**  
Aphids  
Green June beetle grubs  
Midge  
Suckfly

**OLIVE**  
Black scale  
Oleander scale  
Parlatoria scale

**COTTON**  
Aphids  
Flea hopper  
Red spider mites  
Webworm

# PARATHION

The ONE Insecticide  
for MANY Pests

AVAILABLE FROM NATIONAL MANUFACTURERS

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Manufacturer of

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Agricultural Chemicals Division

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Write for Parathion Growers Handbook

**GRAPE**  
Leaf folder  
Mealybug  
Mites

**BLUEBERRY**  
Maggot  
Thrips

**WALNUT**  
Aphids  
Codling moth  
Red spider

**BEANS**  
Aphids  
Armyworms  
Leafhopper  
Leaf miner  
Leaf roller  
Mexican bean beetle  
Red spider mites

**POTATO & TOMATO**  
Aphids  
Colorado potato beetle  
Flea beetle  
Grasshoppers  
Leafhopper  
Serpentine leaf miner  
Whitefly

**CORN**  
Armyworms  
European corn borer  
Grasshoppers

**BEEF**  
Aphids  
Webworm

**CARROT**  
Aphids

# Rising Costs?



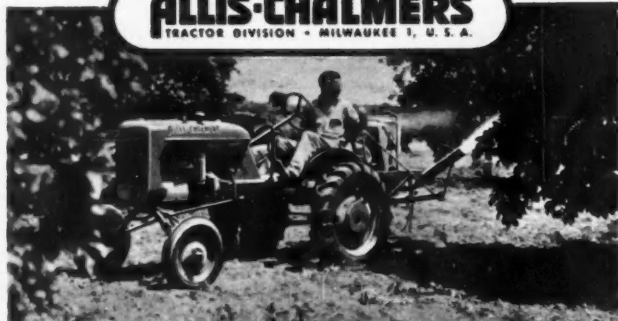
put the **B** on them

If you're looking for a way to hold the line on increasing power and labor costs, look closely at the Allis-Chalmers Model B. It's the standard of economy among tractors today . . . a down-to-earth tractor at a down-to-earth price.

Your Model B dollar goes a long, long way — power to pull a one- or two-way, 16-inch plow in heavy soils . . . hug-the-ground stability on slopes . . . ample, 21¾-inch crop and implement clearance . . . easy-vision torque-tube design . . . close-mounted, quick-lift implements costing no more than horse tools . . . simple, low-cost belt pulley, power take-off and hydraulic lift unit (extra equipment).

Measure against your work also: (1) night-and-day dependability; (2) maintenance costs amounting to cents instead of dollars; (3) easy, handy operation by inexperienced help. Find out, today, at your Allis-Chalmers dealer's, how you can put the B on your rising costs.

**ALLIS-CHALMERS**  
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.



## NAMES IN THE NEWS

● The offices of secretary of the Illinois State Horticultural Society and the Illinois Fruit Council were left vacant temporarily in early February when *James N. Cummins* was recalled to military service. Selected to fill these two jobs, as well as that of treasurer of the one-year-old council, was *Harvey B. Hartline*, prominent grower of Carbondale. Permanent offices for the two groups have been established in Carbondale . . . Illinois fruit grower and strawberry nurseryman *F. G. Anderson* of Anna was recently elected president of the board of directors of the Illinois Fruit Growers Exchange and the Exchange Supply Company.

● Dean of New Jersey fruit growers, *Lester Collins* of Moorestown, was honored during the 11th anniversary of the Jersey Fruit Co-operative Association with a citation for his service to the horticultural industry. The association noted that this was "in keeping with the rich tradition of service rendered to the horticultural interests of New Jersey by several generations of his distinguished family." *Samuel Fraser*, dynamic secretary of the International Apple Association, also was awarded a citation by the New Jersey State Horticultural Society during their recent annual meeting, in recognition of his outstanding service to the horticultural industry.

● After 43 years in the cranberry industry, *Chester M. Chaney*, executive vice-president of the American Cranberry Exchange, has resigned. Mr. Chaney was a founder of the exchange and was instrumental in the development of the trade name, "Eatmore Cranberries." The post is being filled by *Harold E. Bryant* who resigned his position as general manager of Maine Potato Growers, Inc., to accept the position with the exchange.

● *L. F. Fidler*, head of the Fidler Produce Company of Pittsburg, Kans., has been named president of the United Fresh Fruit and Vegetable Association . . . The South Carolina Peach Growers Association at Spartanburg has named as their general manager *W. H. Stalworth*, veteran of the State Agriculture Extension Service.

● At a meeting called for the purpose, delegates from the apple producing areas of District 5 of Western New York Apple Growers Association, Inc., elected *William Giddings* of Baldwinsville as their director. Previously Mr. Giddings had served in a temporary capacity . . . *Rockwood Berry* of Livermore Falls, Maine, secretary of the Maine State Pomological Society, was elected a director of the New York and New England Apple Institute during the recent meeting of the society.

● *Horace M. Putnam*, cherry grower of Lyons, N. Y., and 1951 president of the New York State Horticultural Society, is also president of the National Red Cherry Institute, having been elected to that office during the institute's recent annual meeting. Retiring president "*Gus*" *Rogers* of Traverse City, Mich., one of the institute founders, was elected honorary past president by unanimous acclaim in recognition of his great contribution to the relations between growers and processors in the institute.

● The Western Co-operative Spray Project has named *E. J. Newcomer* of the Bureau of Entomology and Plant Quarantine at Yakima, Wash., to head the organization during 1951. *Dr. H. S. Telford*, entomologist at Washington State College, Pullman, was named vice-chairman.

# SAFE • EFFECTIVE MITE CONTROL



SHERWIN-WILLIAMS

# DIMITE<sup>®</sup>



## ON APPLES, PEACHES, PEARS

**what DIMITE is . . .** Dimite is a water-miscible amber-colored solution consisting of 25% di (p-chlorophenyl) methyl carbinol, compatible with most commonly used insecticides and fungicides except those of an acid nature. *Dimite is not an organic phosphate compound.*

**what DIMITE does . . .** Dimite acts as a contact spray, controlling adult mites and nymphs at the time of application, and, in addition, IT HAS OUTSTANDING RESIDUAL EFFECTIVENESS. For several weeks after applying, the residue is toxic to mites contacting it. Though Dimite is not ovicidal in action, the residual effectiveness outlasts the time required for mite eggs to hatch.

**how DIMITE works . . .** Dimite mixes readily with water for spray application. The selected wetting agents in Dimite wet mites most effectively. Due to the combination of excellent contact action, plus extended residual action, Dimite may be applied either early in the season before mites have built up to damaging numbers; or it will act effectively later in the season to eliminate a serious infestation.

### Read What Leading State Entomologists say . . .

"We tested Dimite on apples . . . in this test it gave better results against both two-spotted and European red mites than did any of the other materials tested. These sprays were applied in August, and in October the Dimite plot was the only one in which the trees still retained most of their leaves."

"One application gave almost complete clean-up of both species of orchard mites, and caused no injury to the apple fruit or foliage that we could see."

"I am enclosing forms with data from the three experiments with Dimite that we conducted this season. We consider this material as one of our best acaricides."

"Though several materials were studied, the most satisfactory in control, least dangerous to the operator,

one which promises to have a much-to-be-desired residual effect, was Sherwin-Williams' Dimite. Only one application of this material when the mite population numbered 120 to 135 per leaf was sufficient to hold this pest in check for the season."

"We should like very much to continue our work with Dimite on apples. Last season it proved to be the most efficient insecticide used in our tests."

"Dimite was tested against European red mite on Red Delicious apples at the rate of one pint per 100 gals. of water. These applications were made with no injury . . . proved highly effective . . . per cent reduction was 97.8."

Dimite may be used safely on McIntosh, Golden Delicious, Jonathan and other commercial varieties.



Obtain your spray material requirements from the Sherwin-Williams Insecticide dealer in your locality, or write to one of the addresses below.

## SHERWIN-WILLIAMS INSECTICIDE-FUNGICIDE DIVISION

100 Park Avenue  
New York City


101 Prospect Ave., N. W.  
Cleveland, Ohio

300 W. Lake Street  
Chicago, Illinois


1450 Sherwin Avenue  
Oakland, California

*Better Use...*

# CHIPMAN



**INSECTICIDES  
FUNGICIDES  
WEED KILLERS**



**FOR QUALITY  
EFFECTIVENESS  
DEPENDABILITY**

## HI-TEST LEAD ARSENATE

Unequaled guaranteed analysis. Contains 21% arsenic as metallic and 0.35% (or less) water soluble arsenic... a real insurance of extra insect killing power... greater safety to fruit and foliage... at no extra cost.

DDT DUSTS & SPRAYS  
PARATHION SPRAY POWDER  
BENZAHENX SPRAY POWDER  
CUBOR (Rotenone) DUSTS

COPPER HYDRO  
COPPER HYDRO BORDO  
DRY LIME SULFUR  
WETTABLE SULFUR  
FIRE BLIGHT DUST

ATLACIDE — Weed Killer  
2, 4-D Weed Killers

Write for  
1951 PRODUCTS  
BOOKLET

**CHIPMAN** CHEMICAL COMPANY

DEPT. K. BOUND BROOK, NEW JERSEY  
Reliable Quality Since 1912

## LETTERS TO THE EDITOR

### Soil Temperatures

Dear Sir:

In February "Letters to the Editor" you quote the following statement of G. N. Bracanto of Baltimore, Md., in regard to the effect of the orchard floor on blossom temperatures:

"The temperature of soil with a cover crop will normally fall to lower levels than the temperature of a soil with bare ground or with only a very short cover crop. The process of radiation takes place more rapidly from a soil with an appreciable cover crop than it does from bare soil."

This opinion certainly is not founded on provable fact.

It is the higher efficiency of bare ground in conducting the earth heat to the surface and transmitting it to the atmosphere that raises the orchard temperature and tends to stave off frost. The cover crop, as an insulating blanket, slows down this radiation and causes lower air temperature and frost damage.

Anyone can make a test by digging in frozen ground down to the frost line in ground with and without cover. Invariably the bare ground has lost its heat more rapidly, and the frost has penetrated deeper.

I, myself, have seen water pipes frozen six feet under ground in the bare streets of Winnipeg while in the timbered country 200 miles to the east, I have seen the tracks of logging teams fill with water when working in deep snow.

Roanoke, Va.

H. F. Stoke

### Sheep Stop Deer

Dear Editor:

Here is how D. O. Merrill of Littleriver, Calif., fooled the deer. It may help some other deer-worried folks.

"Deer will rarely feed where sheep are run on small acreages. Sheep which are confined eat the grass and weeds so close to the ground that deer just don't seem to find it worth while to compete. The deer overlook the fact that fruit or vegetables may be growing on the other side—surrounded only by a sheep-sized fence which would be no problem at all for them. It's just a matter of psychology, Mr. Merrill says—the deer see the sheep and give up without investigating further."

Arcata, Calif.

N. Moss

### Tests on Stayman Cracking

Dear Sir:

I was formerly engaged in experimental work and teaching at New Hampshire State College and since moving to Pennsylvania have been conducting tests to determine how to stop cracking of Stayman apples. Stayman cracking is a serious problem and is known as the "million dollar apple question."

My tests seem to show that Stayman cracking may in a large measure be controlled by the application to the soil of small amounts of boron in the form of commercial borax.

Ten large Stayman trees were selected for testing in 1948, all of which had a similar history of severe cracking of their fruit. Half the trees in the fall of 1948 received four ounces of borax. Since then these trees have received additional small amounts of borax. No results were apparent in 1949, but in 1950 outstanding differences were noted. There was much less

cracking, a better skin finish, and nearly twice as many apples on the borax treated trees at picking time as on the untreated trees.

As a result of these tests one experiment station will add borax to its list of materials to be tested in connection with Stayman cracking this year. Also, the grower in whose orchard the tests are being made, as a result of his own observations, used 200 pounds of borax on a large block of his trees this past fall.

Perhaps fruit growers who suffer from Stayman cracking would like to try borax on a few of their own trees this year. Try eight ounces for a full grown tree not oftener than every other year.

Springfield, Pa.

William H. Wolff

### The Gaston Apple

Dear Editor:

During the last quarter of the 19th century A. L. Gaston operated an apple nursery east of Gainesville, Tex. He originated an apple named Gaston Apple that took a premium at the Dallas Fair.

About 15 years ago, I found a nearly dead apple tree, producing a most delicious flavored fruit. This tree was near the site of Mr. Gaston's nursery. My supposition is that it is the Gaston Apple. I now have several trees of this wonderful apple and am offering fruit growers, nurserymen, etc., a start of scions or budwood free of charge, no restrictions, only that I retain the right of the name Lost Apple.

Those wishing a start of this apple send self-addressed and stamped envelope, stating time of year wanted. This apple grows in shape and color similar to Red Delicious but not quite so red.

Collinsville, Tex.

G. O. Breeding

### One Tree—Many Varieties

Dear Editor:

How is this for a record number of varieties grafted on one tree—Willow Twig, Jonathan, Golden Delicious, Black Twig, Stayman, Red Delicious, Gano, Rome Beauty?

Marx Wieneke of the orchard farm of G. W. Wieneke and Son of Rosedale, Ill., was the patient grafter; and what's more, each graft bore fruit last year!

Virginia, Ill.

Clara Bell

*It must be a beautiful sight to behold grower Wieneke's tree with a full crop, but it gives us the jitters to think of having to prune such a tree. A careless cut and there goes your favorite variety!—Ed.*

### AFG In The Classroom

Dear Editor:

Would you please send me half a dozen or more copies of AMERICAN FRUIT GROWER? We can't get it on our newsstands here, and I'd like very much to have enough copies to be able to make a good study of it with my class in Magazine Article Writing at Kansas State College.

Manhattan, Kan.

Helen P. Hostetter

*If AMERICAN FRUIT GROWER can stimulate fledgling writers in reader Hostetter's agricultural journalism course, we will be more than happy. The copies have been sent with our compliments.—Ed.*

AMERICAN FRUIT GROWER





**"In rough desert country—  
We haul for less than 2½¢ a mile!"**

Bob Wachs (above) and Dave Hulet, crop-dusters, Chandler, Arizona entered their 1950 Ford F-1 Pickup in Ford's nationwide Economy Run. They say, "It gives the inexpensive trucking we need to keep costs down."

● Hulet and Wachs haul spray dust, parts and fuel into the fields to keep their planes flying. During Run they kept daily cost records and say:

"In six months our Pickup traveled 15,055 miles in severe service. Running cost for gas, oil, maintenance, repairs was \$368.43 or only 2.44¢ a mile!"

Like others who rely on Ford

for low running cost, you'll like the money-saving truck service available at Ford Dealers everywhere. Partners Hulet and Wachs say, "We go to our Ford Dealer every month for truck service. We know airplanes, but he knows trucks!"

*For more facts on the trucks that last longer and save you money every mile—send coupon below.*



This new Ford F-1 Pickup for '51 is America's No. 1 Economy Value. It features new steering column gear-shift for passenger-car shifting ease and extra-large rear window for full

visibility. Remember, whatever you haul there's an economical Ford Truck to do it. Ford builds over 180 models all featuring Power Pilot Economy in a power choice of V-8 or Six.

**FORD TRUCKING COSTS LESS**  
because — FORD TRUCKS LAST LONGER!

Using latest registration data on 7,318,000 trucks, life insurance experts prove Ford Trucks last longer!

## **POWER PILOT helps GROWERS hold down hauling costs**

The Ford Truck Power Pilot is a simpler, fully proven way of getting the most power from the least gas.



● It automatically meters and fires the right amount of gas, at precisely the right instant, to match constantly changing speed, load and power requirements.

Unlike conventional systems, the Power Pilot uses one control instead of two, yet is designed to synchronize firing twice as accurately.

You can use regular gas . . . you get no-knock performance. Only Ford in the low-price field gives you Power Pilot Economy!

### **MAIL THIS COUPON TODAY!**

FORD Division of FORD MOTOR COMPANY  
3276 Schaefer Rd., Dearborn, Mich.

Send me without charge or obligation detail specifications on Ford Trucks for 1951.

Full Line ☐ Heavy Duty Models ☐  
Light Models ☐ Extra Heavy Duty Models ☐

Name \_\_\_\_\_  
(Please print plainly)

Address \_\_\_\_\_

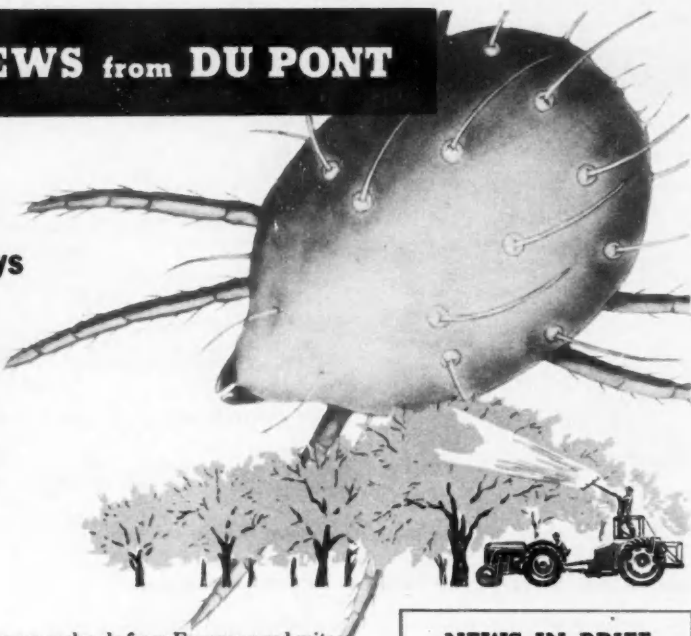
City \_\_\_\_\_ State \_\_\_\_\_

## FARM NEWS from DU PONT

### Control Mites in Fewer Sprays

with

## DU PONT EPN 300 Insecticide



Now you can protect your orchards from European red mite, Two-spotted mite, Pacific mite, Willamette mite and Schoene mite with effective EPN 300 Insecticide. This new product of Du Pont research gives you new advantages:



**Effective clean-up.** EPN 300 produces prompt results so you get relatively quick control of mites on apples, pears, peaches and other stone fruits, and nuts.

**Long-lasting control.** Residual action of EPN 300 is good. Thus you need fewer sprays to keep mites down.



**For Plum curculio,** EPN 300 is also highly effective and is now recommended in several states. It also shows promise against leaf rollers, pear psylla and Oriental fruit moth.

**Compatible.** EPN 300 mixes readily with most other pest-control chemicals, and with "NuGreen" nitrogen fertilizer.

See your dealer for EPN 300 Insecticide and for other Du Pont pest-control products. Ask him for free booklets, too, or write Du Pont, Grasselli Chemicals Dept., Wilmington 98, Delaware.

### DU PONT EPN 300 INSECTICIDE

#### DU PONT CHEMICALS FOR THE FARM INCLUDE:

Fungicides: PARATE\* (Liquid and Dry), FERMATE\*, ZERLATE\*, Copper-A (Fixed Copper), SULFORON\* and SULFORON\*-X Wettable Sulfers... Insecticides: DEBATE\* DOT, MARLATE\* Methoxychlor, LEKONE\* Benzene Hexachloride, KRODITE\* Dinitro Spray, EPN 300 Insecticide, Caldon Arsenate, Lead Arsenate... Weed and Brush Killers: AMANATE\* 2,4-D, TCA and 2,4,5-T... Also: Du Pont Cotton Dust, Du Pont Spreader Sticker, FARMONE\* Fruit Drop Inhibitor, and many others. \*REG. U. S. PAT. OFF.

On all chemicals always follow directions for application. Where warning or caution statements on use of the product are given, read them carefully.

Listens to Du Pont "CAVALCADE OF AMERICA"—  
Tuesday Nights—NBC Coast to Coast



### NEWS IN BRIEF

Up to 74% more scab-free fruit in the report from New York State apple orchards where "Fermate" fungicide proved itself far better than sulfur for scab control and fruit yield. "Fermate" controlled scab without injury to foliage, even in the hottest weather.

With peaches, "Zerlate" controls brown rot and keeps off the Japanese beetles at the same time. "Zerlate" has proved to be consistently excellent for control of brown rot and leaf spots on cherries, plums and peaches.

Last year's experience of grape growers again showed how superior "Fermate" is for control of black rot. Some of the highest yields and highest sugar content were reported from vineyards where it was used regularly.

For cherries, early apples and other early harvested fruit, DuPont "Marlate" methoxychlor insecticide is highly recommended. It gives excellent control of cherry fruit fly and fruit worm, plum curculio, apple flea weevil, codling moth, Oriental fruit moth and Japanese beetle. And it can be used close to harvest because the residue stays effective against insects, yet it is not hazardous to people who eat the fruit.

"Marlate" is ideal for control of insects on vegetables, too: cucumber beetle, Mexican bean beetle, tomato worm, corn earworm, leaf-hoppers, flea beetle, cabbage worms, loopers and others. Moreover, "Marlate" is mild on the foliage, safe even on sensitive cucurbits, and residues of it are not hazardous to people.

# FIGS, WASPS and HORMONES

By JULIAN C. CRANE



**A**S SOME WRITERS have phrased it, a chemical revolution is spreading through the agricultural world. Now man is able for the first time to change the normal course of events in growth and development of plants. By the application of hormones or growth-regulators, he can speed growth here or retard it there. He can greatly increase the number of and rate at which roots are formed on cuttings, or, if he so chooses, he may prevent the sprouting of various types of materials held in storage.

These revolutionary materials may be employed to control time of flowering in some plants and to induce fruit set without pollination in others, the fruit so obtained being seedless. From the standpoint of the fruit grower, the "jack pot" is the use of some of these compounds to prevent fruit from dropping from the tree before it reaches the degree of maturity desired. Excelling all other uses in importance to agriculture as a whole, however, is the remarkable application of growth-regulators in the selective killing of weeds.

The above are only a few of the uses to which these new scientific "tools" for agriculture have been

The American Society for Horticultural Science in 1950 awarded Julian C. Crane, who is assistant professor of pomology at the University of California, Davis, and Rene Blouin of the Shell Oil Company the Vaughan fruit research medal for their outstanding work in controlled growth of fig fruits by synthetic hormone application.

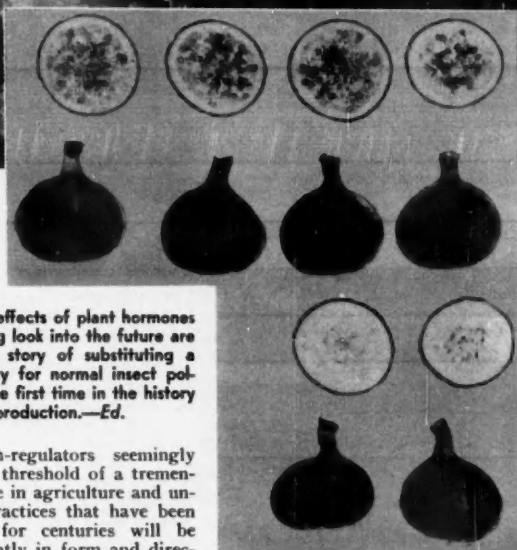
APRIL, 1951

The amazing effects of plant hormones and a startling look into the future are given in this story of substituting a hormone spray for normal insect pollination for the first time in the history of tree fruit production.—Ed.

put. Growth-regulators seemingly stand at the threshold of a tremendous advance in agriculture and undoubtedly practices that have been carried on for centuries will be changed greatly in form and direction. I can think of no better example of what we might expect in the future than that portrayed by the changes taking place in the fig industry of California as a result of recent discoveries with regard to the application of hormones to fig culture.

The production of Calimyrna (Lob Injir) figs is a highly specialized industry that exhibits the interdependence of plant, insect, and man. A brief history of the industry in California will bear out this point.

Although many varieties of figs were introduced during colonial times from Europe and the Mediterranean area, the demand by consumers convinced California orchardists that if they could obtain the Lob



In the top photo a hormone spray is being applied as a substitute for pollination of Calimyrna figs. The photo of the fig fruits shows Calimyrna figs at the top about a month before maturity, produced by the normal process of caprifigation (pollination), and at the bottom seedless figs of the same variety produced with the hormone para-chlorophenoxyacetic acid.

Injir variety from Turkey, they could capture our domestic market that was being supplied by that and neighboring countries.

Trees subsequently propagated in California from cuttings of the Lob Injir variety, received from Turkey in 1880 and 1881, grew vigorously and produced large crops of figs, all of which, however, shrivelled

(Continued on page 30)

# MAKING RECORD GRAPE YIELDS

By T. H. PARKS, Ohio State University

**T**HE GROWING of grapes as a commercial venture in Ohio has been limited chiefly to the counties bordering Lake Erie where the Concord grape was found to do well and where climatic conditions are supposedly most favorable to this crop. The largest grape plantings are now located in Ashtabula and Lake counties, where most of the tonnage is pressed into juice or made into jelly by the processing plants serving that area. Plantings elsewhere in Ohio have been limited largely to grapes grown for home consumption.

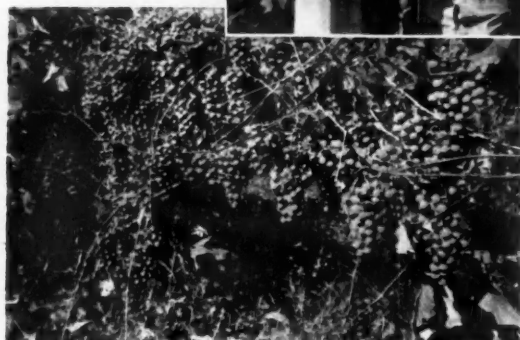
That more extensive grape growing can be profitable in central Ohio has been demonstrated recently on the 2,900-acre Hartman Farm located eight miles south of Columbus. This farm used to be devoted largely to the growing of grain and livestock, but in recent years fruit production has become a major enterprise.

Grapes, peaches, and apples are the three fruits grown commercially. The Hartman Farm now has 60 acres planted to Concord grapes, 40 acres of which are six years of age or under. The soil is of clay loam and well drained with enough slope to provide good air drainage but with a minimum of soil erosion.

What appears to be a record yield of grapes was harvested in 1950 in the six-year-old vineyard. A total of 65,055 gallons of juice—approximately 200 gallons per ton—was pressed and 22 tons of grapes sold in small hampers at the farm's salesroom during the months of September and October. Processing of the grapes takes place right at the farm, machinery having been installed to handle the record tonnage.

On the basis of the above computation, the average yield of this six-year-old vineyard during the 1950 season was eight and one-half tons per acre. The yield of Ohio vineyards in the average season is a little over two tons per acre.

This remarkable yield, then, is about four times the average for Ohio vineyards. We know of no vineyard in unirrigated sections of the United States that has had a



Major Womeldorf, capable manager of the 60-acre Hartman vineyard, harvested eight and one-half tons of Concord grapes per acre in 1950, setting an all-time Ohio record for commercial production.—Ed.

higher record of production, and this probably sets an all-time record for a large commercial vineyard in Ohio.

This excellent achievement was brought about through the good cultural practices followed by Major Womeldorf, capable manager of the fruit enterprise on the farm. Major Womeldorf has occupied this position for many years and has demonstrated alertness and capability in meeting the various problems of fruit growing, especially those connected with grape culture.

The vineyard was set out in rows 10 feet wide and the vines seven feet apart in the row. A modified fan-type pruning system is used, and the canes are pruned to carry 40 to 60 buds per vine. The foreman of the pruning crew is 82-year old "Pap" Burton.

The fertile soil was given a liberal application of manure during the spring of 1950. No commercial fertilizer was used. The cover crop consists of rye grass sown in mid-summer and disked into the ground the following spring.



Genial, progressive Major Womeldorf is shown in top photo standing by concrete end post in Hartman Vineyard.

The quality crop (lower photo) was harvested by a crew of 75 pickers.

The Ohio Agricultural Extension Service grape spray program is closely followed. Spraying is started when the new growth is 10 to 14 inches long. Bordeaux mixture is used for the pre-blossom sprays; ferbam and DDT for the post-blossom applications to control black rot, berry moth, and leafhoppers.

The old vineyard just across the road suffered severe loss from berry moth infestation 11 years ago. DDT sprays, properly timed, now control this pest.

Major Womeldorf learned the hard way that 2,4-D cannot be used to control weeds in the vicinity of the grape vineyard, even on fence rows several rods away. A year ago an acre of grapes failed to mature where 2,4-D had been used to kill weeds along the roadside.

The vineyard carries its crop high—the top wire being five and one-half feet from the ground. The wires are fastened on iron posts; end posts, however, are of cement and well anchored. The high trellis system allows for plenty of ventilation and reduces the frost hazard.

Grape harvesting begins as soon as the peaches have been picked. Fredonia grapes start the season,

(Continued on page 37)



# FLORIDA'S GIANT CITRUS MUTUAL

By JACK GURNETT

Here is a first-hand account of the grass roots movement which caused a revolution in Florida citrus. Jack Gurnett, the author, is a long-time student and observer of the Florida citrus industry and is a resident of Winter Haven, which he calls the "citrus capital of the world." The inspiring story of how growers regained control of their own industry has caused similar grower movements in other areas and is a lesson in what can be accomplished voluntarily without state law or government subsidy.—Ed.

**C**ONCEIVED in a state of fear and born of sheer necessity to do something drastic to save a floundering industry, Florida Citrus Mutual, described as a "super-co-operative" and organized to meet the requirements of the Capper-Volstead Act, is generally credited with putting the Florida citrus grower in practically absolute control of the industry.

Presently having about 7,000 individual grower-members who control an estimated 85 per cent of the state's 100-million box plus crop, Mutual holds the upper hand and has the respect of the packer, the processor, and the trade—something that has never before been achieved by a Florida citrus organization.

Totally in the hands of the grower, Mutual has the power to fix floor prices, with a stiff money penalty for violations, and under the broad terms of the Capper-Volstead Act can engage in almost any activity for the mutual benefit of the growers, including marketing. Another powerful Mutual weapon is the contractual power to allocate or "prorate" shipments to fresh markets.

Its affairs are controlled by a board of directors numbering 21 growers, three from each of the state's seven citrus commission district; and these directors are elected by growers in their own areas each year.

At the time Florida Citrus Mutual was first proposed, the industry was floundering around with every segment tightly organized with the exception of the thousands of growers who were getting mostly "red ink" prices. The fresh fruit packers had two trade groups and the canners and concentrators had a pair of organizations.

In the past there have been several attempts to organize the growers to



Above—Veteran citrusman A. V. Saurman of Clearwater is Mutual's general manager.

Left—Mutual's president is Lake County citrus grower Lucy G. Thomas of Groveland.



Jim Morton, general superintendent of Waverly Growers Co-operative at Waverly, who worked hard as organizational director of Mutual in its formative months (right), looking over grove property with Bill Kinsey, Waverly, now Mutual member.

take over control of their own industry. The latest such attempt, shortly before World War II, was Florida Citrus Growers, Inc., headed by veteran producer Lou Kramer of Lake Wales. After a couple of years Kramer felt it desirable to relinquish the presidency and the organization got into the hands of political-minded people and shortly fell apart.

It was late in 1947 when Latt Maxcy, extensive Polk County grower-packer-canner, then a member of the Florida Citrus Commission, made the historic declaration, "It's high time that the growers of this state got together and took control of their own industry." Maxcy, an outspoken

and brutally frank individual, then proposed that the citrus commission investigate the possibilities of bringing the growers together. The commission agreed and financed the "exploratory" work.

This was the conception of Florida Citrus Mutual and it was planned that when 75 per cent of the state's producing tonnage, on the basis of the 1946-47 production of about 84 million boxes, had signed, the organization would be activated.

Then commenced a long, hard, and at times heartbreaking struggle to get the required membership contracts. Realizing that it took 840,000 boxes

(Continued on page 40)

# THE FRUIT AREAS OF AMERICA

## THE OZARKS

By PAUL STARK, JR.

This is the fourth in the series of articles on America's important fruit areas. Previously covered were New Jersey, East of the Cascades in Washington, and California's Central Valley.—Ed.

**A**T THE TURN of the century the Ozarks area was the fruit bowl of America, with Missouri alone growing more than 20 million apple trees. Benton and Washington counties in northwest Arkansas were the nation's leading apple tree counties, with over a million and a half trees each. The Missouri Ben Davis was King, with about 75 per cent of the apple production concentrated in this variety, followed by Jonathan, Winesap, Black Twig, York, and Rome.

The area went into a gradual decline shortly after 1900 as codling moth, frost hazard, and market changes began to upset the apple economy. The low point in Ozark fruit production came in the late twenties and early thirties when the codling moth almost had us up against the wall, especially in the southern part of Missouri and northwest Arkansas where four broods battled the growers for their fruit. With the development of DDT, and the codling moth war at last won, apple men have under way a sound replanting program.

The Elberta still reigns as Queen of the peach orchard, but, like the Ben Davis apple, her rule is being challenged by the Burbank July Elberta and other better flavored varieties. Concord dominates the grape industry, with Catawba, Herbert, and Fredonia increasing in the new plantings. Blakemore leads the strawberry variety list, with increased plantings of Missouri's new Armorer, a high yielding shipping berry, gaining rapidly as plants become available in volume.

The Ozark fruit section centers on a line going east and west through Springfield, Mo., with the north limit in the northern part of Missouri and the southern extreme in west-central Arkansas, east to the Mississippi River and west into eastern Oklahoma. The major fruits produced are apples, peaches, grapes, and berries.



Fredonia grapes near Fayetteville, Arkansas.



Missouri Ruralist

Quality and condition of Ozark fruits are maintained through the use of better packages. Holding the mesh bag is Ellis Storms, Kansas City, Mo.; Keller consumer carton, Jim Keller, Creve Coeur, Mo.; Friday pack, Alvin Oberworkman, Berger, Mo.

In the northern part of the area, apples are the major fruit crop, while peaches predominate in the south, with about a four-way apple-peach-grape-berry balance in the central highlands. Limited plantings of plums have been successful and new varieties

especially adapted to the Ozark orchards are being released by Paul Shepard of the Mountain Grove Fruit Experiment Station.

The northern part of this area is noted for some of the finest fruit soil that can be found in the world. The



Moving down the Missouri River we come to the Jackson County section around Kansas City. Here we find more diversification of fruit crops to supply the Kansas City market. Peaches and apples are the predominant crops. Grapes, berries, and plums are also produced for roadside markets and other local retail outlets. Pie cherry production is a promising crop for the future, with progressive grow-

East of Waverly, and on the same soil type in Cooper and Boone counties, Jonathan, Starking, and Golden Delicious orchards produce high yields of quality apples and a few peaches for local markets. Missouri's model "Orchard of Tomorrow" is planted near Boonville in the Bell Orchards.

Loess soil types are favored for the apple and peach plantings around St. Louis, with a few orchards on heavier soils of St. Louis County. A substantial acreage is in heavy production along the Mississippi River around Clarksville and Louisiana in Pike County, about 100 miles north of St. Louis. Golden Delicious grows to perfection in this northeast Missouri area and has become the most important variety, followed by Jonathan, Starking, Winesap, and Red Rome Beauty.



The Burbank July Elberta (above) is challenging the Elberta as the leading peach variety in various sections of the Ozarks.

best orchards are grown in a wind deposited silt loam soil classified as loess. This deep, well-drained type often permits apple tree rooting to a depth of 40 feet or more.

The loess soils are found along the Missouri and Mississippi rivers, with the main apple acreage starting up near St. Joseph. The St. Joseph apple deal was almost wiped out by the 1940 Armistice Day blizzard, but is making a good comeback. Many of the new orchards are terraced to conserve moisture and prevent erosion, which may become a serious problem on the loess soils. Jonathan and its all-red sport, the Jonared, are the leading apples, followed by Winesap, Rome, Starking, and Golden Delicious.

ers establishing young plantings of high-yielding certified virus-free strains of Montmorency, Dyehouse, and Early Richmond varieties for processing in Kansas City, where a freezing unit will be built to handle the crop.

Further on down the Missouri River, we find one of the finest apple producing areas of the Middle West. Centered around Waverly and Lexington, the growers specialize in the Jonathan variety, with later plantings favoring the all-red Jonared. Delicious and its red sports also thrive here and the market situation on this variety has promoted an increase in the production of Starking for fall sales. The loess soils around Waverly are favored with a comparatively level terrain for more efficient use of modern mechanical equipment.

Traveling south and up toward the top of the Ozarks, we find a progressive group of grape growers in the Cuba Rosati Steelville section. Production runs heavy to Concord, with a new project sponsored by Sears, Roebuck Foundation developing the Catawba for superior quality wines and the Herbert for fancy table trade. Some of the growers are getting seven tons of Concord to the acre on land that is classified very low for general farm crops. Strawberries also are at home on the light, stony soils.

South and west of Springfield, Mo., starting at Republic and extending down through Marionville, Monette, and Exeter, near the Arkansas line, west to Neosho, we have a streamlined apple and strawberry producing district. This area was once the center of

(Continued on page 36)



- New Jersey Experiencing "Blueberry Boom"
- Mild Weather Prevents Winter "Rest" of California Fruit Trees

**MASSACHUSETTS** — "Mealtime or Snacktime, it's Mactime."

Out of 11,000 entries, this catchy slogan won the grand prize in the recent state-wide McIntosh apple slogan contest. The cash prizes, which were awarded the various winners during the annual meeting of the Massachusetts Fruit Growers Association at Worcester, were donated by the State Department of Agriculture.—*Wm. R. Cole, Sec'y, Amherst.*

**NEW JERSEY**—A "blueberry boom" is being experienced in this state where cranberries formerly ranked first in crop value. The total crop value of cultivated blueberries in 1950 was approximately \$2 million, exceeding the combined value of \$1,850,000 of all other berry crops—cranberries, raspberries, blackberries, and dewberries—for which the Garden State long has been noted.

Last year's return was for a blueberry crop of about 700,000 twelve-pint crates harvested on about 3,000 acres. New clearings and recent plantings in South Jersey forecast a substantial increase in bearing acreage during the next few years. Some of the older growers, recognizing the trend, already are culling their oldest plantings to eliminate the low-yielding and less desirable varieties.

The recently organized New Jersey Blueberry Growers Association aims to be of assistance to new growers and provides a medium through which they can be reached by the staff of the New Jersey Experiment Station branch office at Pemberton.—*Fred W. Jackson.*

**FLORIDA**—Much interest is being shown in southern Florida in the lychee, the small subtropical fruit which resembles "an over-grown raspberry" in shape and color and has a sweet, pleasing flavor.

The lychee is a native of southern China and large quantities of dried lychee fruits ("lychee nuts" they were called) were imported from China for many years. Although introduced into Florida shortly after the Civil War, it was not until 1935 that the first commercial plantings of this fruit were made.

The plantings have expanded gradually and range in size from about an acre to 20 acres. Col. William R. Grove's planting of 1,000 bearing trees at Laurel, in Sarasota County, is the largest in the United States.

Well-drained sandy soil and mild temperatures are best for lychees, and the northern limit of production is believed to be in southern Lake County. Most lychees produced in Florida are sold to Chinese populations in northern cities.—*Clyde Beale, Gainesville.*

**ILLINOIS**—John A. Gage, 86, long a leader in Illinois horticulture, died in his home near Texico, March 9.

Mr. Gage was a close student of plants. In an orchard he set around 1900 he made the discovery of the peach variety which

has given his name prominence in orchards through the Midwest and elsewhere. Probably the first recorded bud sport of Elberta, the Gage peach (also called the Gage Elberta) has a unique spreading growth habit with strong crotches. This plus its fruit quality and greater tolerance to bacterial spot has given it preference over Elberta in many plantings. Gage is now the second leading variety in commercial orchards of Illinois.—*J. C. McDaniel, Urbana.*

**MAINE**—A chain reaction was set off during the annual meeting of the Maine State Pomological Society when chairman of the Maine Apple Committee, William D. Haskins, announced that the apple pies exhibited in the pie-baking contest this year "were the poorest I have ever tasted!"

He gave good reasons, which all pointed up to the fact that more apples would be consumed if more good apple pies were made by more people, and more people would make good apple pies if someone

could tell more people how to select suitable apples and make good pie crust.—*Rockwood Berry, Sec'y, Livermore Falls.*

**DELAWARE**—Strawberry varieties Temple, Tennessee Shipper, Tennessee Beauty, and Robinson are newly introduced varieties in Delaware that are getting attention from growers and processors. The Tennessee varieties, because of good producing and freezing qualities, promise to be increasingly important on the Eastern Shore.—*Chester W. Hitz, University of Delaware.*

**OHIO**—"Looking Ahead Five Years with Ohio Fruit Growers" was the theme of the 104th annual meeting of the Ohio State Horticultural Society in Cincinnati, which attracted some 400 growers. Presiding was Tom L. White, Chardon grower and president of the society.

Dr. Frank Winter of the Ohio Experiment Station was also present.

(Continued on page 26)

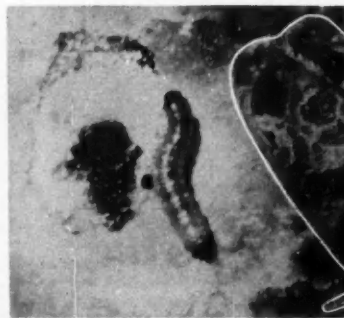
## FRUIT PEST HANDBOOK

(SECOND OF A SERIES)

### GRAPE BERRY MOTH

THE grape berry moth (*Polychrosis viteana* (Clem.)) is a native American insect rather generally distributed over the eastern half of the United States but more important in the Northeast. The first appearing larvae attack and web grape clusters before the blossoms open or soon after the grapes are set. Infested

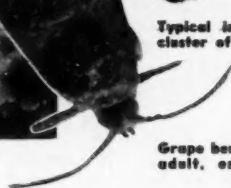
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The larva on grape, enlarged.

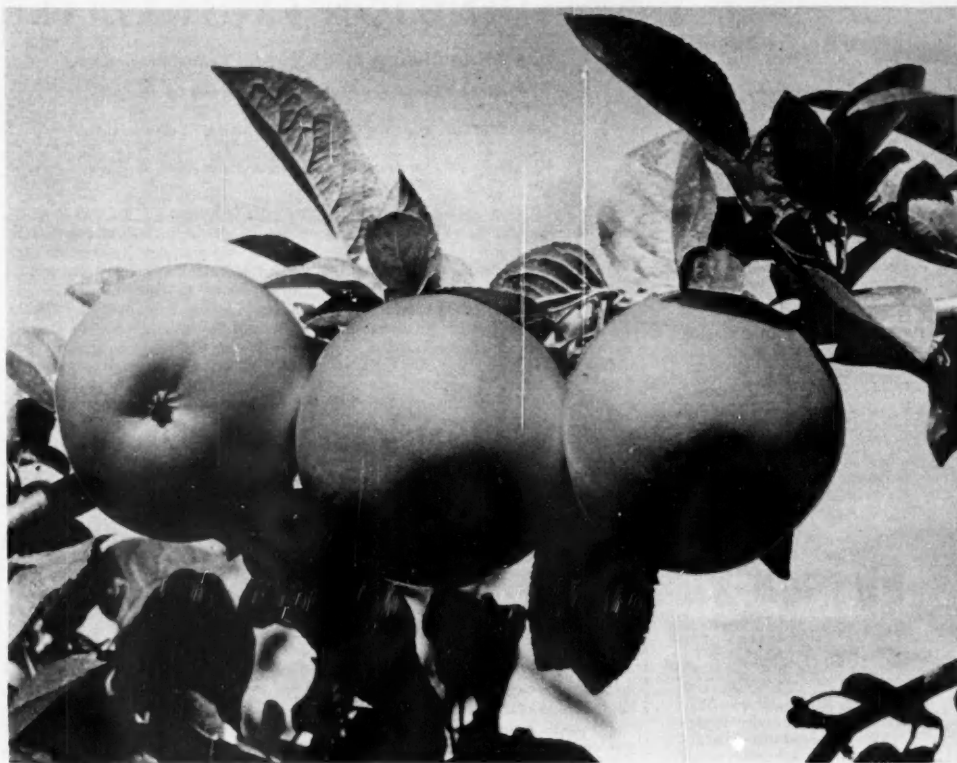


Typical injury on cluster of grapes.



Grape berry moth adult, enlarged.





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**BLACK LEAF® 155** is the reliable, dependable, "fixed" nicotine insecticide. Used as a spray, it destroys mature eggs, hatching larvae and adult codling moths; also grape berry moth, leafhoppers, aphids, newly-hatched bud moth larvae, leaf-miners, pear psylla, and citrus thrips.

**Black Leaf 155** provides long-lasting protection without injury to the tree, fruit or foliage. It permits leaves to function normally, thus producing a better crop of fruit with superior color and finish.

**As it dries**, Black Leaf 155 leaves an adhesive film, resistant to driving rains. Insects, crawling to feeding places, pick up the adhesive particles on their body surfaces and are destroyed by the nicotine in Black Leaf 155.

**For efficient protection**, without injury to tree, fruit or foliage, spray with Black Leaf 155. Directions on every package. Write for further information.

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is a  
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Want **more No. 1 apples?**

spray your orchard with



**Controls European Red Mite, Two-Spotted Mite and Clover Mite more effectively than other commercially available insecticides at economical dosages. Result: More abundant fruit.**

Aramite is non-hazardous, relatively low in cost, easy-to-handle, compatible with most commonly used insecticides and fungicides, and harmless to most natural predators.



**Controls apple scab so effectively that it actually eradicates if sprayed immediately after rain. Result: Increased quantity and quality of yield.**

Phygon-XL is ideal for apples because it combines highly fungicidal properties with ease of application, minimum dosage requirements, and extremely low cost per acre of high-quality fruit.

Consult your local experiment station for recommended dosages and spraying schedules, plus customary safety measures.

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fungicide-insecticides—Spergon Gladiolus Dust, Phygon Rose Dust—  
miticides—Aramite—  
weed killers—Tufor-40.

## WASHINGTON FRUIT LETTER

• Major Changes in U.S. Grades Recommended

• Grape Growers Fight Tax Increase on Wines

By LARSTON D. FARRAR

Washington Correspondent, American Fruit Grower

**A** GROUP of representatives of the deciduous fruit industry, meeting here under aegis of the National Apple Institute, has recommended major revisions in U. S. apple grades. The USDA, which previously had publicized its own suggested changes and had called for industry comment, likely by now has issued revised recommendations.

A new U. S. Fancy grade, designed to fit the large volume of apples packed for movement through modern retail stores, was requested by the industry committee. This U. S. Fancy would be superior enough to the present U. S. No. 1 to overcome its worst deficiencies for that purpose, but not out of practical reach of the volume sales, as the present U. S. Fancy is.

A new U. S. Extra Fancy was requested to fill the need for a federal identification of premium packs. The present U. S. No. 1 would remain, with minor changes to improve terminology. The two new grades would be drawn so as to compare closely with the Extra Fancy and Fancy state grades used in the Northwest.

The industry group recommended retention of the U. S. Utility grade and the U. S. Hail grade; it favored elimination of the U. S. Commercial, U. S. No. 1 Early, and U. S. Utility Early grades. On the latter, it suggested that maturity and color be so defined as to permit early varieties, considering the stage at which they find their proper use, to be graded under regular standards.

The group recommended that combinations of the basic grades be permitted, between any two in sequence, at 50 per cent minimum of the higher grade except in the combination Extra Fancy and Fancy, in which 25 per cent of the higher grade would be in the minimum.

The conferees without dissent recommended that the new Extra Fancy, Fancy, and No. 1 standards be made applicable also to consumer packages under the same designations, with the mechanics of doing so—tolerance, determinations, etc.—to be worked out in consultation.

This is the first general revision of grades in 20 years. It undoubtedly will be effective for the 1951 crop.

CALIFORNIA grape growers are literally "up in arms" over the admin-

istration's proposals to increase the existing excise taxes on wines from 150 to 233 per cent, since the new excise will deal what growers term a "death blow" to their industry.

Representative Hubert B. Scudder (R.-Calif.), was only one of a number of congressmen who spoke vigorously against the increase proposed by the Secretary of the Treasury.

"Placed in the unfortunate position of being taxed out of business are the 26,000 grape-growing farm families in California," Representative Scudder asserted. "Of 506,000 acres planted to vineyards, 167,000 acres are planted to varieties of grapes for which the only commercial outlet is wine products. It takes five years to bring a grape vineyard into production and the supply cannot be adjusted to demand, except on a long-term basis."

SECRETARY of Agriculture Charles F. Brannan has announced here the membership of the Fruit and Vegetable Canners' Advisory Committee, which will consult with the USDA on special problems arising from the defense program.

The committee, made up of representatives of all segments of the fruit and vegetable canning industry, will be under the chairmanship of S. R. Smith, director of the Fruit and Vegetable Branch, Production and Marketing Administration. Floyd F. Hedlum, deputy director of the branch, will serve as vice chairman.

LEA S. HITCHNER, executive secretary of the National Agricultural Chemicals Association, with headquarters here, has advised fruit growers and farmers generally not to reuse or to purchase re-used drums which have contained 2,4-D or 2,4,5-T for any other agricultural chemical, in spite of the serious shortage of containers.

Mr. Hitchner urgently recommends that all manufacturers shipping 2,4-D or 2,4,5-T formulations put an adequate warning signal on the container to avoid use for other agricultural pesticides. There should be embossed or branded into the drum, "This drum contained 2,4-D." Where this is not possible because of container problems, the drums should be stenciled carefully or the content put on in the most practical manner.

Here is the Favorite!

# THE NEW 1951 CHEVROLET



The Styleline De Luxe 4-Door Sedan  
(Continuation of equipment and trim illustrated  
is dependent on availability of material.)

## America's largest and finest low-priced car!

Chevrolet is America's outstanding favorite . . . over a million more Chevrolets on the road than any other car! You'll know the reasons why the moment you slip behind the wheel of a big, new 1951 Chevrolet.

What a world of pleasure you'll find in these new Chevrolet features! New, luxurious Modern-Mode interiors—new, glare-proof Safety-Sight instrument panel—new, safer Jumbo-Drum brakes, the largest in the low-price field—improved, easier Center-Point steering. And you'll find wonderful plus-values in such tried and proved features as Panoramic Visibility and Unitized Knee-Action ride.

You'll get a new driving thrill with the standard Valve-in-Head engine for standard driving at lowest cost, or the 105-h.p. Valve-in-Head engine with Powerglide Automatic Transmission\*—the only time-proved automatic transmission in the low-price field.

See your Chevrolet dealer today. See America's largest and finest low-priced car. Chevrolet Motor Division, General Motors Corporation, Detroit 2, Michigan.

\*Combination of Powerglide automatic transmission and 105-h.p. engine optional on De Luxe models at extra cost.



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Your savings start the day you drive home your new Chevrolet—and they continue through the life of the car. For outstanding gas and oil economy—for low-cost upkeep—and for low initial cost, Chevrolet is your best buy.



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### Stamina that's a standout!

Rugged frame—rugged body—rugged chassis. And with either the standard Valve-in-Head engine or the big 105-h.p. Valve-in-Head engine teamed with Powerglide, you'll find plenty of power for the steepest grades.

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APRIL, 1951

19

**WATER  
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## TWO REPORTS ON POISON IVY CONTROL

### 2,4-D and 2,4,5-T

THE CHANGE from clean cultivation of apple orchards to permanent sod has made poison ivy a difficult problem in most apple growing areas. In many cases "drops" are lost to the grower because pickers are reluctant to work where poison ivy infests the orchard. In some cases, growers must insure medical treatment before they can hire help to pick their crops.

A few years ago 2,4,5-T and various mixtures of 2,4-D and 2,4,5-T were tried as brush killers on many species of woody plants, including poison ivy. Both the 2,4,5-T alone and mixtures with 2,4-D showed great promise in eradicating poison ivy with little or no regrowth the following season.

2,4,5-T is made in certain ester formulations with practically no volatility. In repeated tests no injury was found from volatility to apple varieties where the orchard floor had been sprayed for poison ivy control with butoxy ethanol ester, Weedone Brush Killer 32, a commercial formulation containing two-thirds pound 2,4,5-T and one and one-third pounds 2,4-D. To determine concentrations and time of application, various tests were made in the summer and winter.

### Application

The spray was applied with a low-pressure, low-volume rig through low-volume, fan-type nozzles similar to those used for weed control in field crops such as corn, grains, etc. The boom consisted of a one-inch pipe

six feet long with the nozzles set to spray down and attached on the end of the pipe. It is very important to use low-volume, low-pressure nozzles, since high-pressure nozzles will force some of the material upward into the branches and cause injury to the tree.

The spray should not be applied on days of high winds which may cause drift. The spray pipe and nozzles, complete with hose attachments, can be purchased commercially or the grower can easily make his own. A small gear pump powered from the tractor power take-off can be used to give the pressure needed for spraying. Any steel drum can be used for the spray tank.

For summer spraying the butoxy ethanol ester mixture should be applied when the poison ivy is in the full leaf stage, which is usually July, August, and early September. July and early August may be preferred since the weight of the fruit bending the branches may make it difficult to spray in September.

### Thorough Coverage Necessary

Volume of spray should be enough to insure thorough coverage of the leaves and stems of the ivy plant. The rate to be used is one gallon of the 2,4,5-T and 2,4-D mixture to 100 gallons of water. Do not spray closer than one foot from the trunk base, or the trunk itself, or on any portion of the tree.

It may be necessary to make a second application for spots that are missed or not covered thoroughly.



Effectiveness of ammonium sulfamate as control for poison ivy in apple orchards is illustrated at left as compared with untreated ground cover of poison ivy at right.

AMERICAN FRUIT GROWER



Varieties of the Winesap family are very susceptible to 2,4-D and must not be sprayed for poison ivy control.

Dormant applications should be made in December, January, or February at the rate of one gallon of the butoxy ethanol ester mixture to 40 gallons of Diesel oil or similar oils, and volume of spray should be sufficient to thoroughly wet the ivy stems to ground level. Soaking the ground is not necessary. Do not spray closer than one foot from the trunk, and no spray should be applied to the trunk or any other portion of the tree. Do not spray apple varieties of the Winesap family.

Spraying for poison ivy control in plantings of other fruits should be avoided until further tests have been made. Serious injury has occurred to some pear varieties. Avoid using commercial orchard spray equipment since it is difficult to thoroughly clean 2,4-D from the spray tank.—Anthony Tafuro and John Van Geluwe.

#### Ammonium Sulfamate

Ammonium sulfamate has been used successfully for the control of poison ivy in apple orchards. One spray was applied beneath 30-year-old apple trees in June and practically all ivy was killed. A few scattered plants needed a second application.

The material, called "Ammate", was used at the rate of one pound in one gallon of water. About two gallons of spray were needed to cover thoroughly, with little or no runoff, the poison ivy beneath a tree with a 30-foot spread.

Ammonium sulfamate should be used with some caution because it will kill foliage and limbs of the apple tree. Two men are needed for the job. One will hold up the low limbs of the tree while the other applies the spray. Where ivy is climbing the trunk, it should be cut down and not sprayed while on the tree.

#### Rate of Application

Some growers have had success using ammonium sulfamate at a rate of three-fourths pound in one gallon of water. Lower concentration than this is not recommended. Applications should be made sometime during June and until mid-August. One application will kill most of the plants but a second spray may be necessary after about two weeks to kill the few plants that survive. Last year one spray seemed to kill practically every plant and the hot, dry weather following the application increased the effectiveness of the spray.—E. G. Christ in *New Jersey Horticultural News*.

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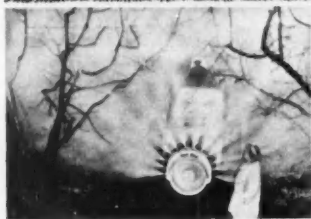
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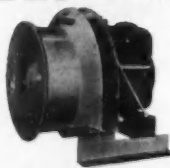
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## NEW ORGANIC SPRAY FOR SCAB AND MITE CONTROL

By M. T. HILBORN

Maine Agricultural Experiment Station

**M**ANY NEW organic pesticides have been tested experimentally on apple trees in recent years in an attempt to improve disease and insect control. Some of these newer fungicides and insecticides have found a place in the apple spray program. However, it has been occasionally noted that while a new pesticide may satisfactorily control a specific pest or disease, the material used may at the same time also affect the control problem of another pest or disease.

With this in mind experimental work was begun with glyoxalidine fungicide at the Maine Agricultural Experiment Station in 1946. It soon became evident that the material showed considerable promise not only in scab control, but, surprisingly enough, in aiding the natural control of European red mite.

### **Large-Scale Tests**

An opportunity for large-scale testing was made possible through the co-operation of the Berry Hill Orchard Company at Livermore Falls, Maine. This orchard, one of the largest in the state, is owned by Lewis Berry and his five sons, Carlton, Howard, Rockwood, Ronald, and Thomas.

The Berry Hill Orchards produce upwards of 30,000 bushels of fruit annually. This production is divided about as follows: 50 per cent McIntosh, 20 per cent Cortland, 20 per cent Red and Golden Delicious, and 10 per cent Northern Spy. All these varieties are subject, under Maine conditions, to rather severe attack by European red mite.

A 10-acre block of McIntosh was selected in 1947 for the test. The same block was used again, in the same manner, in 1948. In 1949 the test was expanded to include 15 acres for the glyoxalidine material. In this block, in addition to McIntosh, there were also other varieties such as Northern Spy and Red Delicious.

In 1950 the test was again expanded so that about 80 per cent of the total acreage on the Berry Hill Orchards was sprayed with the glyoxalidine.

The control block received a spray program which was quite common in Maine orchards; namely, two or three pre-bloom applications of lime sulfur, and wettable sulfur thereafter. The glyoxalidine block also received two or three pre-bloom applications of lime sulfur, but received glyoxalidine thereafter.

The lime sulfur was used in the early applications because the wet, cool spring weather in Maine is so favorable for primary scab infection. If this is held to a reasonable minimum, the control of secondary scab is much easier.

In all the test years, 1947-1950 inclusive, scab control was excellent and about equal on all the plots. The fruit finish and the general appearance of the foliage were decidedly better on the trees sprayed with the glyoxalidine fungicide. No yield records were taken, but the blocks sprayed with this new fungicide have consistently yielded good crops, and the owners feel that the yield has been higher on these trees.

### **Mites Become Scarce**

The effect of these spray treatments on the European red mite population became apparent in 1947, the first year of the test. No miticide was needed on the glyoxalidine blocks, while three applications of miticide were necessary on the control block to keep red mites under even reasonable control.

As a result of this experience, the glyoxalidine test blocks were increased in area in 1949 and 1950. In none of these blocks has a miticide been necessary since the testing was started; and while red mites did appear, they never reached an injurious population level.

### **Increase in Predators?**

The mode of action of the glyoxalidine fungicide in red mite control is not known, except that it seems fairly certain that the material is not a miticide and so does not actually kill European red mite. It seems likely that glyoxalidine has an effect on some other factor or factors, such as permitting the natural predators of European red mite to increase in population, or perhaps the fungicide itself acts as a physical barrier to red mite feeding or egg laying.

The idea of non-interference with natural predators has been supported by field observations of entomologists in Nova Scotia.

A commercial glyoxalidine preparation is Crag Fruit Fungicide 341, of which the active ingredient is 2-hepta-decyl glyoxalidine. This is an organic compound containing nitrogen, carbon, and hydrogen. It is not harmful to handle except that in concentrated form, before diluting to the usual

AMERICAN FRUIT GROWER



Pleased with the results of their new glyoxalidine spray program are Dr. M. Y. Hilborn (left), Maine Agricultural Experiment Station pathologist, and Rockwood Berry, shown examining the 1950 apple crop in the Berry Hill Orchards in Maine.

spray dilutions, the material may be harmful to the eyes if carelessly handled.

Glyoxalidine is compatible with the usual insecticides used in Maine, such as DDT and lead arsenate. As a fungicide it is classed in the general group of "protective" fungicides; that is, those materials that should be applied before infection periods and at such intervals that new growth is adequately covered. For the best scab control the spray applications should be timed with infection periods and growth stages as is now done with wettable sulfur.

At the present time it would seem that glyoxalidine may well fit into the Maine spray schedule. Since it deters red mites the spray program is simplified to some extent, and with the elimination of miticidal sprays the seasonal cost of the spray program is reduced.

### Peach Shipment Summary

**A** FOUR-PAGE "Table of Weekly Carlot Shipments of Peaches by States of Origin," for the years 1940 to 1950, inclusive, has been prepared by Dr. M. J. Dorsey, secretary-treasurer of the National Peach Council, from data furnished by the USDA. Rail and boat shipments only are included.

This is the first time a summary of this kind has been prepared in readily readable form. While it is not a complete report, since truck shipments are not included, it is statistical information all commercial peach growers will find of value and interest.

Copies of the summary are available at cost from Dr. Dorsey for 25 cents each. Address him at 1502 S. Lincoln, Urbana, Ill.

APRIL, 1951



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The spray job is done faster with *Speed Sprayer's* 4-way control that permits the driver to change the spray to right, or left, or both sides, or extra high without getting off the tractor seat.



Start enjoying the benefits of Automatic Spraying at minimum investment with a John Bean *Low Boy* automatic mist. Control red mite, leaf roller etc., with *Low Boy's* penetrating spray that reaches the undersides of branches, leaves and fruit because *Low Boy* uses *guns*, not nozzles. You cover more acres per day, with less labor because of one-man *Low Boy* operation, and *Low Boy* can spray either right, or left, or both sides. *Low Boy* gives you the control you need to protect your crop and protect your profits.



You cover more acres per tank-load—more acres per man-hour—when you apply concentrates or semi-concentrates with a John Bean *Automist*. The labor savings are as automatic as your coverage is thorough with the *Automist*—your best buy in a low cost mist sprayer.

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Eleanor Gilman

Lightweight aluminum pipe, a war surplus pump, and a homemade pond take care of the many uses found for irrigation in the Elbert Forbes berry fields in Vermont.

### IRRIGATING BERRIES

**M**ENTION irrigation and you immediately think of carrying a crop over the season's dry humps. "But that's only part of the story," says Elbert Forbes, strawberry grower of Addison County, Vermont.

Forbes also uses irrigation while making over his five acres of strawberry beds after harvest. This means less setting out of new plants. Without his handy system of 17 rotating sprinklers, which covers one and one-half acres at a time, roots could readily dry out during the renovation.

Forbes remakes a bed in three steps: he mows down weeds and foliage, which are raked away; then he plows down the paths, turning earth over on the plants; after which he wheel harrows both ways, leveling the bed. Both before ripping up the old bed and after the harrowing, he irrigates to keep the roots moist.

The sprinklers also do a fine job of soaking in the fertilizer. For a newly set bed, Forbes uses cow manure balanced with a half ton of superphosphate per acre. In making over a bed, he uses a ton per acre of a 5-8-7 or 10-10-10 commercial fertilizer.

Of course, the sprinklers are put to work during dry spells when berries are coming on. Forbes says an acre-inch per week does a fine job of producing a bumper crop.

With the arrival of spring, he has still another use for the irrigating system. When the mercury drops below 40 and it looks like frost will ruin delicate blossoms, he will turn on the water. Sprinkling has been found an effective anti-frost measure, for as water freezes it throws off heat.

Forbes uses 20-foot lengths of easily-coupled four-inch aluminum pipe and a war surplus pump to feed the sprinklers from the 125,000-gallon pond he gouged out with a dragline.—*Wm. Gilman.*



## THE QUESTION BOX

I can't seem to grow trees from Chinese chestnut seed. What is the best procedure?—*Tennessee*

Chestnuts must have well drained soil. Sandy or loam soil is best if it can be found where drainage is good; or plant on land where peach trees grow well.

After gathering the nuts daily, hold in closed containers for two or three weeks and then plant immediately in the field. Plant the nuts two inches deep and six inches apart and cover with two inches of sawdust. Then heap up the soil over the row so that it is mounded about four inches above the sawdust to give overwintering protection.

In the spring, break the ridges down with a spike-toothed harrow. Leave the trees in the nursery row for two years since a one-year old seedling does not transplant well.

What is the liability of a landowner whose fruit trees overhang another's property who considers them a nuisance?—*New York*

A recent decision in Washington held that one whose land is invaded by the branches or roots of trees or plants, not poisonous or inherently dangerous, has no cause of action against the owner of such trees or plants but may protect himself by cutting them off to the extent that they invade his property. A New York court has held that the fruit belongs to the owner of the property on which the tree stands. The owner has the right to pick the fruit from limbs that overhang his neighbor's property, but he shall not trespass on the ground.

What is the approximate cost of producing a bushel of apples on the tree at harvesttime?—*Virginia*

It varies with the season and the production. For 1950 it was estimated between 75 and 85 cents. The cost of producing a bushel of U.S. No. 1 or better would be much higher. Michigan growers feel that the figure is near \$1 a bushel.

Sub-zero weather in November before the trees were dormant has caused severe injury to our apple trees. Many of them seem to have been killed from the ground up, but the injury to the others seems to be confined to all or portions of the trunk a few inches above the ground up to the limbing out area. The bark above and below this area seems to be normal. Would it be possible to save such trees by bridge grafting?—*Georgia*

Bridge grafting probably will not save your winter-injured trees. Because the trees are weakened, it will be difficult to graft successfully. Also, the large number of grafts needed for each tree makes it an exceedingly laborious and expensive job. If the bark is cracked and split, securely tacking it back to the trunk will help. Remember that a winter-injured tree is like a sick patient and must get well by its own efforts. This means careful nursing. Apply fertilizers early. Keep up the moisture supply; mulching will help.

Should heavily pruned trees receive less fertilizer than those that are lightly pruned?—*New Hampshire*

Heavily pruned trees should receive less fertilizer than lightly pruned trees—everything else being equal. In heavy pruning, many growing points are removed. This means that there is more nitrogen available to the portions that remain.

## MORE PROFITS FROM BETTER FRUIT WITH

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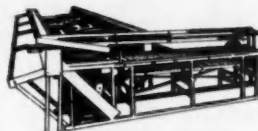
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You'll get a bigger slice of the consumer dollar when you equip with John Bean graders, cleaners and conveyors. There is a size to handle the production of your orchard, and John Bean engineers will help you arrange the equipment to fit efficiently into one of your present buildings.

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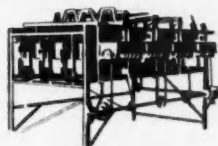
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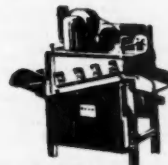
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You improve your profits when you improve the appearance of your pack with a John Bean 2-way fruit cleaner. Your fruit is carefully brush-cleaned and softly polished with the exclusive 2-way action. There is no increase in labor costs when you add a John Bean Cleaner to your packing line, so all the extra value you add to your pack is extra profit for you.



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## STATE NEWS

(Continued from page 16)

ment Station told growers that tests revealed that ferbam is as effective against apple scab as micro-fine sulfur. The best control of blossom blight (brown rot) of peach, according to Dr. Winter's findings, is a mixture of Phygon and micro-fine sulfur.

Plum curculio on peaches and plums was best controlled in Ohio last year, according to Ohio Experiment Station entomologists, with EPN. Dieldrin was the next best of the new control materials.

Apple marketing is still a big problem in Ohio. Max Brunk, Cornell University fruit marketing specialist, told his Ohio friends that his findings in New York cities showed that bruise-free apples increase grocery store sales 33 per cent; that window displays help to sell 25 per cent more fruit; and that sales are increased for bagged apples when both bulk and bagged fruit is offered.

Growers of small fruits had their own sessions in which they discussed weed control, cultural practices, and marketing. Ohio does not produce anywhere near the small fruits consumed within its borders; consequently it is a fertile field of production for growers conveniently situated from the standpoint of labor and market centers.

When Ohio fruit growers left their three-day meeting on February 23 they felt they really had picked up information enough to last five years. Cleveland was selected as the location for next year's meeting.—Eldon S. Banta.

**OKLAHOMA**—Hand weeding of first-year strawberries was reduced as much as 50 per cent by light applications of 2,4-D two to three days after cultivation, in experimental plots of the Oklahoma Experiment Station. Applications at four to five-week intervals did not reduce total growth or yield.

In a planting of the Lawton variety of blackberry many annual weeds and grasses were kept under control by light applications of 2,4-D just before the weeds started

Joseph Di Giorgio, 76, Sicilian immigrant who arrived in Baltimore, Md., at the age of 14, virtually penniless, and became a multimillionaire head of fruit concerns which span the continent, died February 25 in Di Giorgio, Calif., of a heart ailment.

The Di Giorgio farms in California and Florida are among the largest in the world. About a year ago Mr. Di Giorgio sold one section of his Florida citrus grove for \$5 million to a quick freeze corporation, retaining, however, thousands of acres of other Florida holdings near Indian River and Homestead. He aided in the development of the San Joaquin Valley of California as a wine and grape center.

to grow in the spring and repeated later as new seedlings appeared.

**CALIFORNIA**—The soft fruit industry is trying to evaluate this year—perhaps the mildest winter it has ever experienced. Normally by the end of November California would have had at least 200 hours of weather below 45° F. at the reference point at Davis, which lies in the center of the Great Central Valley. This year, by the end of November, Davis had only 109 hours below 45°, and the rest of the winter was so mild that the trees apparently never did go into their winter rest.

The University of California, afraid that an abnormal dropping of both fruit and shoot buds might occur, sent out a warning to postpone all pruning until after the normal shedding time.

Outside of the uncertain condition of the trees, the supply picture of canned fruits is encouraging. The latest report of the Canners League of California showed about half as much stocks of canned fruit on hand on February 1, 1951, as to the same time last year.

The California Canning Peach Association has made an unusual offer to the canners. In the past the canners have negotiated



Winners for 1950 in the Appalachian Quality Apple Club for Maryland are shown above. Reading from left to right are L. S. Martley, manager agricultural development, B&O Railroad (sponsors of the club), Baltimore, Md.; John W. Milburn, Blossom Haven Orchards, Elkton; Bill and Felipe Cahill, The J. Andrew Cahill Orchards, Hancock; and W. T. Delaplaine, Quyan Orchards, Frederick.

Virginia winners were Mrs. Frank Sleeter, Hill High Orchards, Round Hill; Narrow Passage Orchard Corp., Woodstock; D. K. Russell, D. K. Russell & Sons, Clearbrook; W. A. Morris, Jr., Roseland; Tavenner Orchards, Woodstock; and Murray Orchards, Roanoke.

West Virginia winners were Romney Orchards, Inc., Romney; Consolidated Orchards, Inc., Paw Paw; Bett-Morr Orchards, Charles Town; E. C. McFadden, Martinsburg; H. F. Byrd, Charles Town; Sunrise Orchards, Romney.

R. L. Winkler, horticultural agent for B&O, states that during the three years the club has been in operation competition has increased to the point where only apples graded for above the minimum requirement for U.S. Fancy qualify their owners for membership. In one 500-bushel entry (the minimum requirement) the federal-state inspector failed to find one scorable grade defect. These extra high quality packs usually command premium prices—convincing proof that perfect apples packed perfectly will really pay dividends.

a price and size control which controls the entire crop; but this year a contract formulated by the growers' organization offers a regular supply to signing canners for the next five years. As the association controls practically all the crop, any canner who does not sign the contract will be without peaches.—*Jack Pickett.*

**PENNSYLVANIA**—Joseph W. Orton, 75, one of North East's pioneer fruit growers, died February 1 following illness of three months.

A resident of North East township his entire life, Mr. Orton, with his brother, E. A. Orton, operated several large fruit farms known as the Orton Brothers Farms.

Mr. Orton was one of the founders of the North East Fruit Growers Association and served as vice president and director of that organization for several years.—*George E. Toles.*

**WISCONSIN**—Exceptional success with a new variety of strawberry, the Thomas, was obtained last summer in northern Wisconsin. On a one-acre tract, 52 crates of berries were harvested in the first picking on July 16, and production held up strong with pickings every other day through August 10. A premium of \$1 to \$2 per crate was received on the Milwaukee market.

A native Wisconsin berry, the Thomas was developed by the grower for whom it was named but who died before the variety had been tested commercially.

The Thomas is said to be a large, attractive berry that ships well. Of particular advantage is its late bearing habit. The plants blossom about 10 days after the Robinson variety.

Due to long runners, it is claimed that about 3,000 plants instead of the usual 6,000 are required per acre. The variety is said to do equally well on sandy or clay soil.—*Charles M. Sheridan.*

Roy Pierson McPherson, 75, well-known Le Roy, N. Y., fruit grower, died February 9, of a heart ailment.

For 27 years, from 1920 to 1947, Mr. McPherson was secretary and treasurer of the New York State Horticultural Society, and was made an honorary life member upon his resignation.

He was widely known throughout New York and other eastern fruit growing states. In 1926 he was elected by the legislature a member at large of the State Council of Agriculture and Markets and served for 10 years.

**NEW YORK**—The New York State Horticultural Society during its recent annual meeting in Rochester asked in resolutions that:

The state apple grading law be more strictly enforced to insure uniform quality to consumers.

The State Conservation Commission be granted authority to extend deer seasons when advisable to cut down damage to orchards by herds.

A new food processing laboratory and new greenhouses be built at the state experiment station at Geneva and a new agricultural engineering building be built at Cornell, both to facilitate scientific farm work.

The state legislature decide on a "firm policy" in regard to artificial rain-making.

The state labor law be amended to permit women harvesters to take their children into the orchards when they go to work.

The latter resolution, the society declared, was necessary to guarantee adequate help in the face of an expected manpower shortage this year.—*George E. Toles.*



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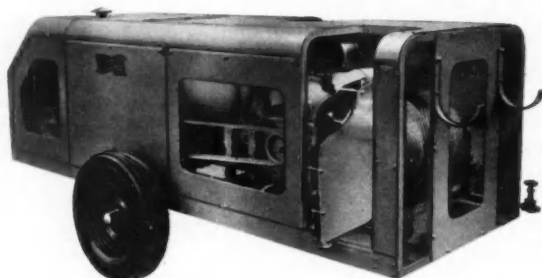
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## THE ORCHARD HOME

*Homekeeping hearts are the happiest.*  
—Longfellow

A poem, recipes, and an experience story are being offered to our women readers this month.

With the coming of spring and the increase in motor travel, Mrs. Sarah Umosella of Hammonton, N. J., has sent along her experience story on roadside marketing.

### ROADSIDE SELLING

Each year more and more country women are showing an interest in the selling of fruit and other farm products at roadside stands, and the work is proving both healthful and profitable.

We find that berries, fruits, and vegetables as they ripen are fine for selling to the motorist: such as strawberries, early peas, string beans, raspberries, blackberries, cherries, and peaches.

My experience has shown that a stand should not be on a curve or near the top of a hill where the driver must keep his eyes on the road and give his undivided attention to driving. It should be far enough back from the road to permit plenty of room for parking off the highway.

Signs at least 100 feet from the stand are best, and we have found that the stand itself must be attractive enough to make a good advertisement of the stock on hand. The attractive appearance of the stand should be supplemented by the crisp freshness of the dress worn by the attendant.

We always have plenty of paper bags before the stand is opened. The motorist who finds that he must empty the things he buys into the back of his car will not stop the second time. I find, also, that a motorist will seldom stop unless he can see someone ready to serve him.

Now that berry season is close at hand, we have a delightful little poem from Mrs. Orlo J. Penick, Pleasant Lake, Ind., on berry picking.

### BERRY PICKING

Ah, well do I remember  
When I was but a child,  
Gathering red strawberries  
And raspberries, growing wild.

We'd take our lunch and pick 'till dark,  
To get our buckets filled,  
And when at last we'd set them down  
We'd find that half we'd spilled.

But now we have no trouble  
And we pick in perfect ease  
For we've planted us a berry patch  
As handy as you please.

Here is a recipe for strawberry jam from Mrs. Ray Gerth of Oshkosh, Wis. She adds that raspberries can be used in place of strawberries.

### BEST STRAWBERRY JAM

4 cups berries (heaping)

Put on a low fire and heat slowly until they start to boil. Boil 3 minutes; then add

3 cups sugar

Leave on low fire until it starts to boil. Boil 3 minutes; then add

2 cups sugar

When this starts to boil, boil for 3 minutes. Let stand a couple of minutes, stir, and put in glasses. Be sure to cook just 3 minutes each time. Cover with wax.

AMERICAN FRUIT GROWER



Have you been hunting for a new way to use apricots? Here is a suggestion for candy submitted by Mrs. E. A. Clark of Bellefontaine, O.

#### APRICOT GUM DROPS

2 tablespoons gelatin  
 1/2 cup cold water  
 Grated rind and juice of one orange  
 Juice of one lemon  
 1 cup sugar  
 1/2 cup water  
 1 cup dried apricots  
 Powdered sugar  
 Dissolve gelatin in cold water. Add grated rind and juice of orange, lemon, sugar, apricots, and water. Boil 10 minutes, stirring constantly. Pour in buttered pans. Cut in squares and roll in powdered sugar.

For a dessert treat for your family, try the following recipe for sherbet by Mrs. L. Blodgett of Coeymans Hollow, N. Y.

#### SHERBET

3 oranges and 3 lemons sliced  
 3 bananas crushed  
 2 1/2 cups sugar beaten in 2 egg whites  
 3 cups cold water.  
 Beat all together and put in freezer tray. When frozen 1 inch at edges, take out and beat again, returning to tray.

From Mrs. Dorothy Thompson of Floral City, Fla., comes an interesting recipe for apples.

#### FRENCH APPLE CAKE

1/2 cup sugar  
 2 eggs  
 3/4 cup all-purpose flour  
 1/4 cup margarine or any good vegetable shortening  
 1 teaspoon baking powder  
 1/2 teaspoon salt  
 2 large apples  
 Beat whole eggs until very light and thick. Fold in sugar and beat well. Sift flour, baking powder, and salt together and gradually add to egg mixture, mixing smoothly. Add softened shortening and mix well. Put half of mixture into greased and floured baking dish. Add apples which have been peeled and cut into very thin slices, placing them in an even layer over the dough. Add other half of batter. Sprinkle powdered sugar over the top and bake at 400° 20 or 25 minutes.  
 This cake batter will be thick and may have to be spread out in pan with spoon. This recipe makes a very thin layer. The quantities may be doubled for a thicker cake.

For a tempting salad, try the following recipe by Mrs. R. E. Aitchison, Ft. Pierce, Fla.

#### PLUM-ORANGE SALAD

Simmer plums until tender. Remove pit. Insert orange section. Place on top of cottage cheese in a cupped lettuce leaf. Garnish with grated cheddar cheese and thin slices of ripe olives.

Do you have a good fruit recipe, a friendly poem, or a story of an interesting orchard experience you would like to share with other women in fruit growing? If so, send it to the Orchard Home Editor, *American Fruit Grower*, 106 Euclid Avenue, Willoughby, Ohio. Payment will be made upon publication.

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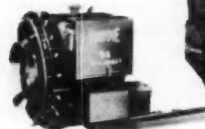
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## FIGS, WASPS, HORMONES

(Continued from page 11)

and dropped to the ground when about half-grown. In 1885 and again in 1886, seeds taken from imported dried Lob Injir figs from Turkey were planted but the figs produced by these seedling trees also shrivelled and dropped to the ground before they were mature.

About this time, Wm. C. West, an experienced fig grower, was sent to Turkey to obtain cuttings and to make observations on cultural operations as practiced in that country. He sent back cuttings of the capri or male fig, the element which was supposed to bring about fruitfulness in the female Lob Injir type.

### The Wasp's Role

As early as the 1870's John Bleasdale, who had visited Portugal, told the California fig growers how the Lob Injir fig had to be pollinated by means of the fig wasp, *Blastophaga psenes*. After many unsuccessful attempts by private interests to import the fig wasp and establish it in caprifig trees where it completes its life cycle, USDA's Walter T. Swingle in 1899 sent back from Algeria caprifigs containing the wasp. The caprifigs were opened and with their hibernating insects were placed in caprifig trees at the George Roeding ranch in Fresno and in 1900 the crop of Lob Injir figs on the Roeding place amounted to about 15 tons.

The successful establishment of the wasp in California stimulated interest in the commercial production of the Calimyrna (Lob Injir) fig until today there are approximately 13,000 acres of the Calimyrna variety in the state.

The process of pollen transfer from the caprifig to the flowers of the Calimyrna fig by the fig wasp is termed caprifigation. The labor involved in properly caprifigging an orchard is expensive and the process is somewhat haphazard. Caprifigs are picked at the proper stage of development and are suspended in the Calimyrna trees on wires, or, more often, they are placed in perforated paper bags or wire baskets. The number of caprifigs applied per tree varies, due to the great variation in the number of wasps from caprifig to caprifig and from season to season.

### Disease Threatens Industry

It soon became apparent, after the establishment of the fig wasp in California, that a fungus disease known as endosepsis or internal rot of the fruit might wipe out this newly established industry. As a result of

this ever-present threat, it is common practice among growers to use the smallest quantity of caprifigs possible and still obtain a good set of fruit. The organism develops in the fruit of the caprifig and the spores are transmitted by the fig wasp (the average caprifig contains some 200 wasps) to the young Calimyrna figs at the time of caprification. Roughly a third of the total crop of Calimyrna figs produced each year is not marketable, and the major part of this loss is caused by the internal rot disease spread by the fig wasp.

Other problems also are associated with caprification. The grower must either maintain caprifig trees in his orchard (they are worthless except for pollination purposes), which occupy valuable land area, or purchase caprifigs from other growers. In either case there is the risk that the caprifigs and the young Calimyrna figs will not reach the proper stage of development for pollination at exactly the same time.

Another periodic "headache" of the grower is whether or not the over-wintering crop of caprifigs that perpetuates the wasp population will be killed by low temperatures.

Hence, it is plain to see why the Calimyrna fig grower is definitely interested in new techniques which will simplify and standardize the caprification process. The grower looks upon caprification as a necessary evil and would welcome its elimination from his list of cultural operations.

With this in mind, the writer, in co-operation with Rene Blondeau of the Shell Agricultural Laboratory, began investigations in 1947 to determine the possibility of setting and maturing Calimyrna figs with an application of a hormone and, thus, eliminate the necessity for using caprifigs and wasps.

#### Experiments With Growth Regulators

Experimental treatments consisted of injecting various concentrations of different growth regulators through the tiny openings or "eyes" and into the cavities of the young fruits or spraying the materials on the leaves and fruits. Spray applications of indolebutyric acid resulted in a 71 per cent fruit set as compared to a 52 per cent set for figs that were caprifigged. Thus, to our great surprise, about 20 per cent more figs were produced with a single spray application of the hormone than resulted from the usual practice of caprification.

The "fly in the ointment," however, was the fact that the hormone, (Continued on page 32)



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## FIGS, WASPS, HORMONES

(Continued from page 31)

when used at a sufficient concentration to bring about good fruit set, was somewhat toxic and caused burning of the leaves. Last, but by no means least, this particular material at current prices then would have cost the grower about \$2,000 an acre to apply!

Our work during the 1948 season logically centered around the testing of several other hormones in an attempt to find one that would not be injurious to the foliage and would be economical for the growers to use. Nine chemicals at a number of concentrations were tested, both alone and in various combinations, and the results were even more amazing than what had been obtained the year previous.

One of the hormones tested—para-chlorophenoxyacetic acid—was a highly effective compound in promoting fruit set without any observable symptoms of injury to fruits, foliage, or twigs. Hence, a compound costing between \$5 and \$6 per acre to apply (caprification costs amount to between \$25 and \$35 per acre) had been found which was capable of putting the fig wasp "out of business" and thereby eliminating the major disease problem of the Calimyrna fig industry—internal rot.

### Pollination Substitute

The enthusiasm with which this discovery was received is exemplified by the fact that a local chemical company marketed during the 1950 season a product known as "Fig Fix," the active ingredient of which is para-chlorophenoxyacetic acid. For the first time in the history of tree fruit production, a hormone spray material was applied commercially by Bert Innes of Fighaven Farms to substitute for the normal process of pollination and fertilization.

Total yields of fruit per acre were slightly better where the hormone was used than where the usual procedure of caprification was followed. The "pay off," however, was the great difference in marketable fruit produced by the two methods. During the 1949 season, experimental tests revealed that from 16 to 31 per cent more marketable figs were produced with hormones than by caprification. Again, in 1950, on a commercial scale, spraying with hormones resulted in an average increase in marketable fruit yield of 13 per cent over orchards that were caprifigged.

The major portion of this increase was due to the fact that the internal

AMERICAN FRUIT GROWER



rot disease was non-existent in the hormone-produced figs.

Serious reductions in marketable Calimyrna fig yields are frequently incurred as a result of fruit splitting. This problem, which rather commonly occurs in other fruits, shows up at the time the figs mature and has been observed to be more severe under conditions of high relative humidity. Seedless figs produced with hormones, however, have never been known to split. Experimental evidence indicates that splitting of fig fruits is brought about by the growth of the seeds within the fruit,

#### HANDY ANDY



Fruit grower Louis Hall, Hillsborough County, Hollis, N. H., saves himself a lot of extra work spreading nitrate of soda around his apple trees by mounting a large wooden hopper on his Cyclone seed planter. The hopper measures 18 inches wide, 23½ inches long and 9 inches high. An outlet hole 4½ inches square was cut in the bottom of the hopper. This hopper will hold approximately 100 pounds of nitrate of soda. The Cyclone seed planter is bolted to the hopper. An iron rod was shaped to pass through two 2 x 6's under hopper to form a lever for regulating the flow of nitrate. Completed hopper is mounted on a stand at rear of trailer, leaving plenty of room for carrying extra fertilizer.—C. L. Stratton.

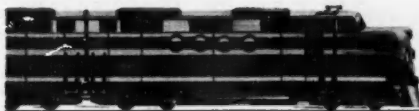
the degree of splitting being associated with weather conditions.

Externally, hormone-produced Calimyrna figs are not a great deal different in appearance than those caprifigged. The former are light lemon yellow in color while the latter are typically golden yellow when mature. Figs produced with hormones are somewhat more ribbed and their necks slightly more flattened than on caprifigged fruits.

Internally, particularly at maturity, the two types of figs are markedly different, the most pronounced.

(Continued on page 34)

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## FIGS, WASPS, HORMONES

(Continued from page 33)

nounced differences being in the color of the pulp and in the development of seeds. The pulp in the caprifig is a light strawberry red color while that in the hormone-induced figs is light amber yellow.

The most striking internal difference between these figs is the complete lack of seeds in those which are hormone produced. Being seedless, this type of fig opens up a potentially broader market.

Sugar analyses for the past three years have shown the seedless figs to be about five per cent richer in sugar than those with seeds. Dried "Miracle Seedless Figs" in attractive boxes have been on the commercial market for the past two years.

### Fruit Development Hastened

One of the materials tested for setting figs without pollination brought about a phenomenal hastening of fruit development and maturity. Young Calimyrna figs at pollination time, when sprayed with a dilute solution of 2,4,5-T—a potent hormone weed killer—were found to be of normal size and mature just 15 days after the spray was applied. Phenomenal? Yes! Ripe Calimyrna figs were available two full months before the normal maturity date!

The question presented itself as to what might be the response of pollinated Calimyrna figs to spray applications of 2,4,5-T. Here, again, fruit growth was greatly accelerated so that maturity was attained 13 days after the spray was applied, or about a month before the maturity of pollinated but unsprayed fruit. Mature figs obtained in this manner possessed external and internal characteristics similar to mature unsprayed fruits except that seeds were not so fully developed.

Recommendations with regard to the use of 2,4,5-T on figs to hasten maturity have not been made since injury, in varying degree, has always accompanied its application. Research at present is aimed at an attempt to separate the beneficial from the harmful effects of this revolutionary compound.

In addition to the practical application of these findings to the fig and, perhaps, other fruit industries, certain fundamental aspects of interest to plant scientists have been brought to light. In the first place, it is apparent that fruit set is controlled, at least in part, by hormones and, secondly, fruit growth and development following pollination or growth-regulator application is also closely associated or controlled by hormones.

## YOUR INSURANCE FOR BETTER CROPS!



## CORONA

- ARSENATE OF LEAD
- MICRONIZED 50% WETTABLE DDT
- MICRONIZED WETTABLE and DUSTING SULFURS
- TREE WOUND DRESSING
- COROMATE (Ferric Dimethyl Dithiocarbamate)
- COROTHION (15% Wetttable Parathion)
- CORONA "26" (Tri-Basic Copper Sulphate)



See your dealer or write for full information about Corona's New Brush and Weed Control Chemicals.



Write for Literature

**Corona Chemical Division  
PITTSBURGH PLATE GLASS COMPANY**  
MILWAUKEE, WIS. MOORESTOWN, N. J.

## STRAW CONTAINERS

**A** BOX BOARD from straw, to replace critical wood veneer now used in making wire-bound shipping containers for farm and industrial products has been announced by the USDA. The new product is a result of joint research by the Bureau of Agricultural and Industrial Chemistry in co-operation with the Technical Association of the Pulp and Paper Industry.

A report on the work states that straw box board is important because of the increasing demands for wood veneer in uses other than for box making. The straw box board could replace much of the 1.5 billion square feet of wood veneer used annually in wire-bound boxes, and at the same time it would provide an economical use for some 500,000 tons of straw, which is readily available as part of the nation's annual straw surplus, estimated at some 40 million tons.

One big advantage of the new board-making process is that it utilizes standard equipment already available to, or employed by, the insulating building board industry. The thickness of the straw box board can be varied easily from a sixth to a quarter of an inch, depending on the type of box needed for specific uses.

## GRAPE BERRY MOTH

(Continued from page 16)

berries begin to drop from the stems when about the size of peas. Later appearing larvae bore into the green or ripening berries, often producing purplish spots and leaving small feeding holes.

The grayish-purple moth, measuring only 1/2 inch across the wings, emerges in late spring from cocoons which wintered on the ground in rubbish or in fallen folded grape leaves. The females lay flat, cream-colored eggs on stems, flower clusters, and newly forming berries.

The young larvae (greenish worms with brown heads, 1/2 to 1/2 inch long) spin a silken web in the fruit clusters as they feed. Each worm may destroy several berries before spinning a cocoon inside a little flap which it cuts out of the leaf and folds over.

Moths of the second generation emerge in July. Normally there are two generations in the North and three in the South.

**Control.** The best sanitary measure is cultivating the soil in the spring to bury the cocoons so deeply moths cannot emerge. The standard spray now is DDT, 2 pounds of 50 per cent wettable powder, added to 100 gallons of Bordeaux mixture or ferbam, and applied: 1) when shoot growth is 8 to 12 inches long, 2) just after blossoms fall, 3) 10 to 15 days after No. 2, and 4) 35 to 45 days after No. 2.

If the berry moth is not a serious problem, only two applications may be needed: the first, one week before the blooming period and the second just after blossoms fall; or the first just after blossoms fall and the second 10 to 15 days later.

Recent experiments in New York and Ohio indicate that methoxychlor and parathion are also effective at recommended dosages. Parathion was found toxic to larvae even after they entered the fruit.

APRIL, 1951

## GREATER PROFITS from Farm Crops!

### Don't Gamble on the Weather

No farmer who can afford the original investment necessary to put in a crop, should be without the assurance of a good crop.

Irrigation systems supplied by dependable Gorman-Rupp high pressure centrifugal irrigation pumps provide an unfailing supply of water for producing larger and better crops. Gorman-Rupp pumps Never Fail!

Made in various sizes, G.P.M. varies with lbs. pressure. Ratings from 80 G.P.M. at 75 lbs. to 1250 G.P.M. at 125 lbs. up to 4000 G.P.M. at 40 ft.

Send for Bulletin 9-IR-11 and Special Folder "IRRIGATION AT MALABAR FARM"



From coast to coast - with crops of all kinds - farmers are depending more and more on Gorman-Rupp Irrigation Pumps.



THE GORMAN-RUPP COMPANY  
MANSFIELD, OHIO

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### POLLINATE

For National Defense,  
To Increase Yield,  
To Lower Unit Cost,  
To Increase Size and Quality.

Apply by hand, bee hive insert, hand duster, power duster, water spray.

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FRUIT TREE POLLEN SUPPLIES CO.

Box 1243

Wenatchee, Washington

Phone 16

COMING . . . . . JULY DIRECTORY Issue

## THE OZARKS

(Continued from page 15)

the old Ben Davis deal that made Missouri famous, and some trees of this variety are still being planted for a special red apple market. Jonathan and Golden Delicious are the important apple varieties, with Starking coming up fast.

Strawberries and grapes are also important crops in this area. Peaches are grown to a limited degree, but spring frosts make this a rather haz-

ardous crop except on the best air-drained elevations.

South of the Missouri line in north-west Arkansas, we have one of the nation's most important Concord grape areas, with Benton and Washington counties producing terrific tonnage for juice and wine. The soils are rocky and light textured uplands which adapts them to an assortment of fruit crops. Spring frosts have made peach growing a little risky, and codling moth about finished off the apple orchards until the advent of DDT. Summer varieties, Lodi and

Yellow Transparent, increased in importance during the codling moth scourge to get away from the second, third, and fourth brood problem.

### Southern Limit for Jonathan

Berries are also an important crop, with strawberries, blackberries, and Boysenberries leading in importance. The apple producing section of Washington County extends over into eastern Oklahoma from Lincoln, Ark., to Westville. This is the southern limit for Jonathan and fruit is ready for market two to three weeks ahead of the important Jonathan orchards up in Missouri.

Some of the finest flavored peaches in the world are produced on the sunny southern slopes of the Ozarks, starting at Clarksville and following along the Arkansas River through Lamar to Russellville. Most of the orchards on the high ridges on the north side of the river grow in light, sandy soil underlain with a red clay base. Elberta dominates the western part of the district but is no longer planted in the eastern orchards.

As we go towards Russellville in eastern Johnson County and western Polk County, the Burbank July Elberta is the leading peach, with Fair's Beauty also planted heavily. Uneeda and Shinn, white clings, are also favored for home processing by Arkansas housewives. Summer apples are grown to a limited extent, with interest increasing in re-establishing early fall apple production now that we have effective insecticides.

The early peach section of Arkansas centers around Nashville and Highlands. The Elberta is the important variety in this country, with substantial plantings of Fair's Beauty in parts of the district. A few Red Bird clings are also grown for early market. This section once claimed the largest peach orchard in the world with the Bert Johnson 4,000-acre planting.

Growers in southeast Missouri and

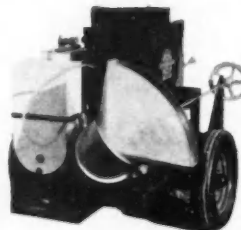
## ONE MAN BECOMES A SPRAY CREW

**ONE MAN** spraying eight hours can cover the same number of trees that used to require 16 to 24 hours!



### BUFFALO TURBINE IS THE SECRET

**ONE MAN** does all of the work easily with a **BUFFALO TURBINE**. Operating the controls of this orchard-tested sprayer-duster from the tractor, many of the country's leading growers have found that the quality of their crop increased and that chemical and labor costs were cut in half!



- SAVE ON ORIGINAL EQUIPMENT COST
- SAVE ON LABOR
- SAVE TIME IN APPLYING ORCHARD CHEMICALS
- SAVE ON COSTS OF INSECTICIDES AND FUNGICIDES

### BUFFALO TURBINE

Agricultural Equipment Co., Inc.  
GOWANDA, N. Y.

Manufacturer of the Original Mist Sprayer-Duster

Buffalo Turbine Agr. Equip. Co., Inc.  
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I would like to have complete literature on the **BUFFALO TURBINE** no obligation whatever.

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"Honestly, Pete, that's the strongest spray I ever used!"

AMERICAN FRUIT GROWER





## Puratized<sup>\*</sup> AGRICULTURAL SPRAY

Pat. No. 2,423,262

Elimination of scab means a bigger crop, better fruit, more vigorous trees. Use Puratized Agricultural Spray to guard against infection and to inactivate scab after it starts.

The outstanding effectiveness of Puratized Agricultural Spray has been proven year after year by commercial growers everywhere.

This patented formulation is recognized by research authorities as a unique contribution for the control of scab and other plant diseases. Consult your local dealer or write today for further details.

### INEXPENSIVE

One gallon makes 800 gallons of spray.

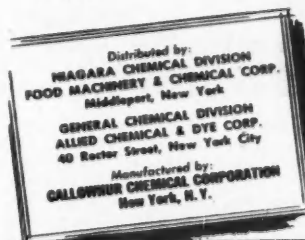
### EASY TO USE

Instantly water soluble. Leaves no visible deposit. Can be applied with common insecticides and fungicides.

### VERSATILE

Effective, too, for brown rot blossom blight of cherries and peaches, and certain other plant diseases.

<sup>\*</sup>Trade Mark



northeast Arkansas and extending south along Crowley's Ridge through Forest City and Wynne, Ark., have found peaches a most dependable crop. The section has "hit" crops with amazing regularity. Apples continue to be an important crop around Cape Girardeau, Mo., and further down on Crowley's Ridge.

Ozark fruit production is settling into a stable, well-balanced enterprise. Emphasis is now concentrated on quality and uniformity of pack to give the consumer better apples, peaches, berries, and grapes. Package research is being carried on by the growers to improve consumer end-of-the-line quality and appearance of Ozark grown fruit. Spartan boxes and Friday cartons have proved to be better packages for our apples and peaches and their use is being expanded.

### Dwarf Trees Receiving Attention

Hardy dwarf and semi-dwarf apple trees are also receiving considerable attention and hold great promise for the future of the Ozark area. Grown on hardy, sturdy Virginia Crab and Clark dwarfing stock, important varieties can be brought into production two to six years earlier. Fruit sizes as well as or better than on standard trees and yields per acre will be about the same as on standard trees when closer planting of about 15 by 20 feet is practical. Costs of spraying, pruning, and harvesting are greatly reduced and quality of the fruit is the finest.

I doubt if the Ozarks will ever again occupy the position of the nation's heaviest producing area for apples; but with grower emphasis on quality, color, and flavor, fruit fanciers can expect from our future crops some of the finest flavored and attractive fruit that has ever been produced in the Ozark highlands.

## RECORD GRAPE YIELDS

(Continued from page 12)

thus satisfying the early local demand for quality grapes at the modern Hartman roadside market. The heavy crop of grapes taxed the farm's facilities during the harvest season, delaying fall apple harvest.

A crew of 75 women picked this record crop. The bulk of the juice was sold to processing plants and the balance held in family-size containers for retail sale at the farm throughout the year.

The attractive Hartman Farm fruit market, on U. S. Highway 23, has become a favorite stopping place for truckers, many of whom, on their return trip from the East, load up with choice fruit from the farm for Kentucky and Tennessee markets.



HALF-STARVED SOILS  
MEAN SLOW GROWTH,  
POOR GRADING AND  
LOW PROFITS.



—helps you get to  
market earlier with  
bigger and better fruit!

Sure, soils vary! But tree requirements don't. This year—as always—your trees must get a complete diet of vital food elements to grow best—to grow biggest—to mature earliest.

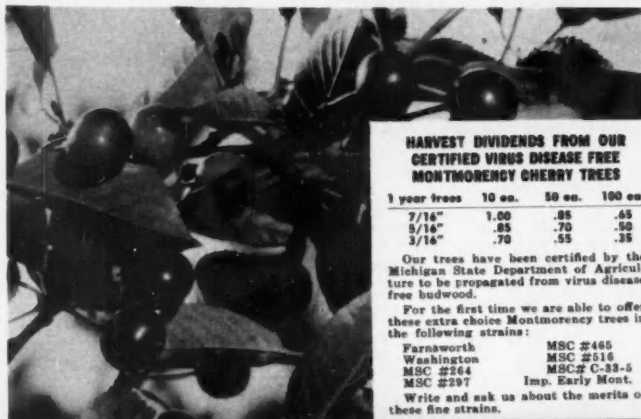
Benefit from the experience of others—be sure you use new formula Vigoro for **Commercial Growers**. It's especially created to bring bigger yields of better fruit, on any soil.



<sup>\*</sup>VIGORO is the  
trade-mark for Swift &  
Company's complete,  
balanced plant food.

## SWIFT & COMPANY

Plant Food Division  
U. S. Yards  
Chicago 9, Illinois



#### HARVEST DIVIDENDS FROM OUR CERTIFIED VIRUS DISEASE FREE MONTMORENCY CHERRY TREES

1 year trees	10 ea.	50 ea.	100 ea.
7/16"	1.00	.85	.65
5/16"	.85	.70	.50
3/16"	.70	.55	.35

Our trees have been certified by the Michigan State Department of Agriculture to be propagated from virus disease free budwood.

For the first time we are able to offer these extra choice Montmorency trees in the following strains:

Farnsworth	MSC #465
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Write and ask us about the merits of these fine strains.

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Add to your income by selling AMERICAN FRUIT GROWER. It's a logical combination for AMERICAN FRUIT GROWER will help your customers get the best results from the nursery stock you sell them. Make every call pay! This means additional cash for you regardless of whether you sell a nursery-stock order or a subscription to AMERICAN FRUIT GROWER.

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Willoughby, Ohio

Advertisement



From where I sit ... *by Joe Marsh*

## Buzz And The Off-Key Baritones

Reverend Lester of the church out on Hillsboro Road coaches his Young Peoples' Choir late Thursday afternoons—after high school in town lets out.

Buzz Ellis pastures cows next to that church. Around 5 o'clock they used to make a lot of racket about going home. That made it kind of rough on the choir.

When Buzz learned what was going on he said to Reverend Lester: "I never yet heard of a cow that could moo on key. So, I'll just move 'em in a little earlier. . . ." This started me to thinking. Buzz

doesn't go to that church. And he's so tone-deaf he couldn't carry a tune in a bucket!

From where I sit, you might say that Buzz didn't have much in common with those singers. But he doesn't divide folks into groups he's "with" or "agin." Your politics, your personal preferences—or the fact that you like a moderate glass of beer—mean nothing either way to Buzz. He's a real neighbor to everybody!

*Joe Marsh*

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# NEW FOR YOU

## Efficient Operation

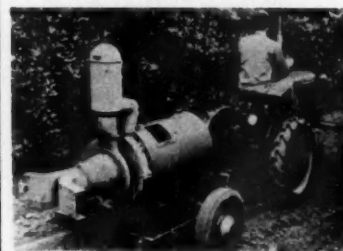


All growers are faced with increasing costs—everything but the price of fruit seems to be going up, up, up! To get the most out of tractor and sprayer fuel, the "Mile-O-Meter" gauge tells the operator quickly and easily how much gasoline he is using and what adjustments he will have to make for greater fuel economy. This gauge is worth knowing about and sells for a nominal sum. Write Cory Snow, Inc., 655 Beacon St., Boston 15, Mass., for details.

## Improved Use of DDT

To avoid leaf burn from the solvent or carrier for DDT, the Penn Salt Company has just issued a pamphlet which will be helpful to many growers. The new bulletin, Pennsalt No. 201, gives in tabulated form for quick reference the pest causing damage and the amount of DDT spray to be used, with instructions for application. The leaflet is obtainable from Agricultural Chemicals Dept., Pennsylvania Salt Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.

## Turbo-Jet and Frost



Applying the principles of the jet aircraft engine, the Turbo-Jet heater controls frost in the orchard. This portable unit, which produces heat up to 5 million Btu. per hour, is equipped with a blower which distributes the smokeless and sootless air over a wide area. When

AMERICAN FRUIT GROWER

## • SPRAY RESPIRATOR • GASOLINE GAUGE

mounted on a trailer and moved slowly through the orchard, it is claimed a temperature rise of three to four degrees can be accomplished. Diesel oil is used for fuel. Full information is available from Turbo-Jet Heater Sales Co., 417 So. Hill St., Los Angeles 14, Calif.

### Valuable Information

A great many growers have found the Caterpillar tractor to be essential for profitable fruit production. To make Caterpillar equipment more efficient for the owner, the Caterpillar Tractor Co., Peoria 8, Ill., has published several informative booklets. They can be had free of charge by writing the company. The pamphlets are: "Caterpillar DO8 Diesel Tractor," "Efficient Traction for Farming," "Truck Growing Profits with Caterpillar Diesel Power," "Land Preparation," and "Caterpillar for Off-Season Work."

### Don't Take a Chance



Parathion and other highly poisonous organic chemicals which are being used extensively by growers, require that the spray crew use effective protective methods and equipment. The lightweight, easy-to-wear respirator made by Mine Safety Appliances Co., Braddock, Thomas and Meads Sts., Pittsburgh 8, Pa., has been government approved. Why not write them for their free bulletin?

### Land of Plenty

A splendid booklet, just published, traces the history of farm equipment development in this country. It tells how your tractor came into being, how your sprayer was developed, etc. Well illustrated, the booklet will be sent you for 25 cents to cover publishing and mailing costs. Write Farm Equipment Institute, 608 S. Dearborn St., Chicago 5, Ill.

APRIL, 1951

## **IMPORTANT ANNOUNCEMENT to ALL OWNERS and USERS of V-Type 4-Cylinder WISCONSIN Air-Cooled ENGINES**

### **New, Improved Type MICRO-FINE OIL FILTER Adds More H.P. Hours!**

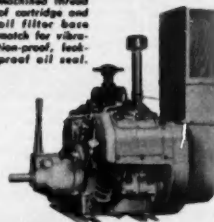
Dirty oil is one of the worst causes of engine wear and expense. You can add many extra H.P. Hours of dependable service to the life of your Wisconsin Engine by keeping the oil free from dirt, filings and sludge-acid that accumulate in the crankcase.

Now, after many months of intensive engineering research and development, Wisconsin Motor Corporation, their distributors and dealers, have ready for you a super-filter . . . the new MICRO-FINE OIL FILTER CARTRIDGE. This filter removes solids that measure less than 1/10,000th of an inch in diameter . . . and will hold its own dry weight of acids, dirt and filings! And it costs no more, and possibly even less than Oil Filters you have been using!

Replace Filter Cartridge after every 50 to 100 hrs. of engine service (depending on dust conditions) for the best engine protection. Ask your Wisconsin dealer for the new MICRO-FINE Oil Filter Cartridge.



Machined thread of cartridge and oil filter base match for vibration-proof, leak-proof oil seal.



MOST  
H.P. HOURS

### WISCONSIN MOTOR CORPORATION

World's Largest Builders of Heavy Duty Air-Cooled Engines  
MILWAUKEE 45 WISCONSIN

**Stop Insects!  
Stop Fungus!**

**protect  
your  
FRUIT TREES**



**PRATT'S FRUIT TREE SPRAY OR DUST** is all you need to protect your home orchard from many insects and diseases. Contains sulfur, basic lead arsenate and DDT. Helps you grow better peaches, pears, apples and other fruits. 1 lb., 75c; 3 lbs., \$1.35.\*

\*Prices west of Ohio, the Virginias and Carolinas: 1 lb., 80c; 3 lbs., \$1.40.

**PRATT'S VEGETABLE DUST OR SPRAY** controls insects AND blight. Helps grow better vegetables.

**D-X INSECT SPRAY** is the leading garden spray. Extra powerful—yet non-poisonous!

**PRATT'S GARDEN & ROSE DUST** kills insects and diseases on roses, flowers and vegetables.

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**B. G. PRATT CO., 163 RIVER ST., HACKENSACK, N. J.**

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"Spraying the  
Home  
Garden"



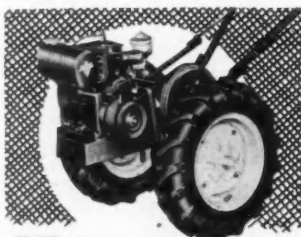
**MILCOR Gardeneer PICK-UP CART**  
Holds several bushels at once. Perfectly balanced for easy handling.

**LOW-COST WORK-SAVER**  
★ Gardeneer Pick-up Cart  
★ Gardeneer Tool Rack

Here's your answer to two problems: hauling chores and tool storage. Amazingly useful all year 'round... built of sturdy, heavy gauge steel... and priced so reasonably! Real time and work-savers you can't do without. See your dealer soon.

**INLAND STEEL PRODUCTS CO.**  
Formerly Milcor Steel Company  
4145 W. Burnham St., Milwaukee 1, Wis.

★ **MILCOR Gardeneer TOOL RACK**  
Holds a dozen tools neatly in place. Mounts on studs, brick, or masonry.

## 17% GREATER TRACTION

No hop... no jerk... no slipping wheels on heavy loads. Get up to 17% more traction because of 1) ahead-of-axle attachment connection exerts down thrust and, 2) super wide 6" tires. Springfield tractors pull so smoothly handles aren't needed on attachments.

Get handy power anywhere with direct power take-off (speed reducer not needed). Two models—2 h.p. at \$179.50—3 h.p. at \$239.50 (f.o.b. Springfield). All attachments available.

Write for **FREE** catalog

**Springfield GARDEN TRACTOR**

Choice dealerships available  
QUICK MFG., INC., 3373 S. Limestone St., Springfield, Ohio

## FLORIDA CITRUS MUTUAL

(Continued from page 13)

of citrus to give Mutual an additional percentage point. Maxcy and others knew that they would "have to shoot for the big ones," but they were not too easy to bag. All sorts of arguments were advanced for not signing Mutual contracts.

Late in the year 1948 it became apparent that personalities were involved. Objections to the composition of the first board of directors, which Maxcy headed as president, were voiced.

In a move of desperation a "peace" meeting was called at Orlando, and it was suggested that the state's two senators, Spessard L. Holland and Claude Pepper, along with Governor Fuller Warren, be asked to each name one interim director for each of the seven districts. The officials agreed to do this to save the Mutual idea. An "interim" board was named in January of 1949 to serve until the 75 per cent tonnage sign-up was achieved and a grower-member election, as called for by the by-laws, could be held. From the time the interim board took over things began to happen.

Some really large growers signed up, some of them making public statements that they believed Mutual "is the only thing that has been offered the citrus growers of Florida that will give them control of their industry."


### Steady Growth

Fieldmen went out to "shake the bushes" and to explain Mutual. All was not smooth sailing—there were a lot of "die-hards" and today there are still a few prominent factors within the industry who have not come into Mutual for one reason or another. There has been an organized, but very ineffective, propaganda campaign against Mutual—a campaign that is still underway. Charges have been made that big tonnage has dropped out of Mutual, that processors have canceled their contracts; but in each instance the officials of the super-cooperative have refused to "dignify the reports" by denials. Newsmen covering the citrus industry have made their own checks and have found that instead of losing either in numerical strength or from a tonnage standpoint, Mutual is steadily adding both growers and processors.

Under the Mutual setup it is strictly a simon-pure growers' organization. It started out to include processors and fresh fruit packers as "members," but this was changed shortly after the organization campaign started. Instead, packers and processors now have contracts as "Mutual handlers."

## Spray Rig Troubles?

this year  
**Eliminate them with...**  
**Clean Rigs**  
**WORK BETTER**  
**LAST LONGER**



**Flush Rigs Before Using with NUTRA-SOL and Note the Difference.**

1 lb. can 75¢ discount  
100-200 Gallon Rig Will Remove 2,4-D, etc.

For name of nearest dealer send postcard to:  
**HARANG ENGINEERING CO.,**

## YOU CAN FILE OREGON-CHIPPER CHAIN

Because of its patented Fast-File Teeth, anybody can keep Oregon Chipper Chains sharp, ready for speedy, steady cutting. Almost all Oregon Chains carry their own filing, saw and file set, built on Oregon Chains on your saw. Write today for nearest dealer's name. State saw make, bar length. (Available dealerships open).

—Fast File Feed  
YOUR CHAIN SAW JOCKER



"Trade Mark"  
STANDARD REPLACEMENT  
CHAIN FOR:  
MAG - DIVISION - SHARPS  
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Address Book 24 **OREGON SAW CHAIN CORP.**  
8516 S. E. 17th Avenue, Portland 2, Oregon

## UNITED'S B. B. (BLOCK BAKED) CORKBOARD INSULATION



Assures maximum insulation efficiency at minimum cost. Moisture-resistant, compact, light-weight, sanitary, structurally strong, flexible.

Write for particulars  
**UNITED CORK COMPANIES**  
WEST KEARNY, N.J.

Literature on request


## Standard RIDE OR WALK Tractors

**GARDEN AND SMALL FARM Tractors**  
Powerful 1 and 2 Cylinder Tractors for Small Farms, Gardeners, Florists, Nurseries, Fruit and Poultrymen.

**FOUR MODELS**  
Ample Power for Field, Haying, and Tractor Crop Tools. Run Pumps, Saws and Belt Machines.

**Steel or Rubber Tires**  
High Wheels—Enclosed Gears  
**EASY TERMS**  
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MINNEAPOLIS, MINN. NEW YORK, N.Y.  
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AMERICAN FRUIT GROWER



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### SEEDLING SETTING AND TREE FEEDING MADE EASY

The Danuser Digger attachment for most popular makes of tractors digs hundreds of holes per day with dimensions from 4" to 24". An Earth Drill that is easily installed—quality built throughout, of rugged construction with Timken Bearings—a one-man operation. Eight Augers available in 4", 6", 8", 10", 12", 14", 18" and 24" sizes. For literature illustrating adaptation on your model tractor, write:

**DANUSER MACHINE CO.**  
509 - 13 E. Third St.      Falton, Mo.



Tested and Approved by Most Tractor Manufacturers

Easiest, fastest, most efficient  
irrigation system on the  
market today!

Streamlined  
**McDowell**  
COUPLINGS, FITTINGS



No yokes, latches,  
catches!

• Quick, effortless, one-man assembly or  
disassembly • No tools required • Posi-  
tively seal • Readily moved and reassembled.

Write for details, name of nearest dealer

**McDowell Manufacturing Co.**  
Pittsburgh 9, Pa.

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We furnish gentle Italian  
bees, ring proof equip-  
ment, hives, magazines and  
books. Bees greatly in-  
crease yield of fruit and in-  
crease seed and produce honey. Very profit-  
able. Free advice from experienced bee  
men. Large factory selling direct saves  
you 25%. Catalogue free.

**WALTER T. KELLEY CO.**  
Dept. A.      PADUCAH, KENTUCKY

Orders for books on fruit growing and allied sub-  
jects may be sent to **AMERICAN FRUIT GROWER**,  
166 Euclid Ave., Willoughby, Ohio, with check  
or money order enclosed.

Under the contracts with growers, which run for a 10-year period, there is a "drop-out" provision in June of each year. The contracts with fresh fruit packers and processors are similar to the growers, as they also run for 10 years and have the drop-out privilege.

### On-the-Spot Market Information

Despite all the "sharp-shooting" at Mutual, it is generally conceded that its daily information service on shipments, trend of the markets, prices on the auction, and f.o.b. quotations, as well as the prices being paid canners and concentrators, has given the whole industry a complete visual picture of the market and has allowed intelligent planning from day to day as is necessary with a perishable food crop such as citrus.

This information is assembled in Lakeland by a competent staff and summarized for wire and overnight mail transmission to all handlers and the trade. Maintaining a full-time office in New York, recently supplemented by one in Chicago, and with part-time representation in other key terminals, Mutual knows, from hour to hour, what is happening both at home and in the markets.

### Pasco Signs Up

Probably the greatest single victory for Mutual was the signing of a contract with the huge Pasco Packing Co., of Dade City, the world's largest citrus processing organization. Pasco had been an admitted holdout since the start, didn't like anything about the super-co-operative, and its officials were not reluctant to express their views, at times taking full-page ads in the papers to go on record publicly.

But after Mutual got better than the 75 per cent sign-up it became apparent that the pressure was being applied on Pasco by many growers who refused to sell to the giant processor, pointing out that under their membership agreements they could not sell their fruit to a non-contract handler. It became a matter of supplies, and it was obvious that the pinch was hurting.

Then late in 1949, there were rumors of Pasco making overtures towards Mutual to get a contract to its liking. Mutual stood pat, said that Pasco could sign the regular contract form with no additions or deletions—or stay out. Mutual was doing all right without Pasco. Along about Christmas time of '49 there were a series of meetings. A Leesburg banker, George W. Ware, president of the First National Bank of Leesburg, entered the picture as a mediator. There were more meetings—and on New Year's Eve of '49, Pasco growers

(Continued on page 42)

## SENSATIONALLY VERSATILE



**FARM OREAD**

This absolutely amazing vehicle is one of the major automotive developments of the 20th Century. Here, combined in one lightweight, low-cost machine, is a powerful tractor, an economical road vehicle, a rugged truck, and a mobile power plant.

Farm implements especially designed for the FarmOread available at modest extra cost. Crasley front-mounted Rotary Mower, pictured above, is most recent addition. No floor implement for large lawns, air ports, golf courses, pastures, cemeteries, etc. Cuts 2 1/2 times faster than ordinary sickle-bar mowers—no raking—chops cuttings into fragments, providing mulch which promotes thick growth of grass. Adjustable cutting height 2" to 6" or more. Controls weeds and tall grass leaving tender succulent grass or legumes for livestock in pastures or meadows.

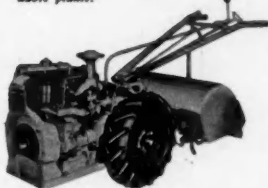
Other especially designed FarmOread implements available include plow, disc-harrow, cultivator, post hole digger, snowplow-doser, real-type gang mower, sickle-bar mower, and rake.

See your Crasley dealer today! Learn what the FarmOread and Crasley implements can do for you. Or, if interested in selling this low-cost, amazingly versatile vehicle, contact at once the Sales Manager, Crasley Motors, Inc. For FREE FarmOread Catalog, write Crasley Motors, Inc., 2536-A3 Spring Grove Ave., Cincinnati 14, Ohio.

Twice the work of a work horse  
Twice the speed of a race horse

**HOW**      Hrnak's  
Greenhouse  
Oshkosh, Wis.  
WAS SAVED BY 10 YR. OLD  
**ARIENS**  
**ROTARY TILLER**

JAN. 31, 1951. When power failed during today's 10" below zero weather, an Ariens Tiller motor, connected to stoker at Hrnak's Greenhouse, kept up heat and saved many valuable plants.



Powered for perfect work in hardest soils the Ariens Tiller—with 4-cycle Wisconsin engine—"doodles" as steady-by equipment. 3 models: 7, 9, 13 1/2 H.P. Two clutches. Two speeds forward; reverse. Full tilage—2 to 10 in. deep. Prepares seedbed, hills, cultivates. Chops up, mixes in cover crop, manure. Write for details.

**Ariens**  
COMPANY  
BRILLION, WISCONSIN

## ATTENTION:

### ORCHARD SUPPLY DEALERS AND JOBBERS

Big opportunity for EXTRA business and profit from present customers by handling M.S.A. Farm Spray Respirators which have the acceptance of the U. S. Inter-Departmental Committee on Pest Control. Government and manufacturers both urge use of respirators in processing and applying Parathion and other organic phosphates; rich, ready-made market is waiting. No new salesmen or sales contacts required; your present customers are your best respirator prospects. Every sale means automatic repeat business and profits on filters and cartridges. Many areas virtually unworked—first real, aggressive sales drive will skim the cream. M.S.A. means tops in protection on every safety item; equipment developed in World's largest research laboratory devoted exclusively to Safety.

Write, wire or phone  
for full price  
and product information

### MINE SAFETY APPLIANCES COMPANY

BRADDOCK, THOMAS AND MEADE STS.  
PITTSBURGH 8, PA.

SA BRANCH OFFICES IN THE UNITED STATES AND CANADA



WRITE: FREE FOLDER EXPLAINS

### GRAFTWAX TREE SEALANT

Since 1929 excels in grafting; cures tree and plant wounds, ulcers, used for cankers, borers, rodents. Adhesive, waterproof. IT HEALS AND HEALS! APPLY COLD. Put on in 1 lb. and 6 lb. cans. \$1 per lb., \$1.75 per 2 lbs., \$2.65 per 6 lbs. (Postpaid). W. of Mississippi R. add 15c per lb. Free Sample.

GLADWIN DEVELOPMENT CO. Dept. A, Gladwin, Pa.

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## FLORIDA CITRUS MUTUAL

(Continued from page 41)

agreed to join Mutual immediately—and that made the biggest citrus news story of the year. Regular grower and handler contracts were signed.

The signing by the Pasco group broke the resistance of other sizable operators and encouraged more growers to sign. The net gain, therefore, was much more than Pasco's processing facilities and the upwards of four million boxes of fruit produced by its stockholders, in itself five percentage points on the overall state tonnage.

### Mutual's Future

Mutual has several departments, including the fresh fruit division; the private sales division; a canning and processing unit; a growers' service division; a publicity office; and its own printing and mailing facilities.

Now under construction at Lakeland, and to be occupied late this summer, is a specially designed building. The property was provided by the Chamber of Commerce and the City of Lakeland, and the municipality is financing the construction to be amortized by the super-co-operative at the rate of about \$9,000 a year. Certain USDA agencies will occupy offices and pay Mutual rent of about \$5,000 a year—so it looks like a good deal for the organization.

What's in the future for Mutual? With a crop estimated at around 100 million boxes of oranges, grapefruit, and tangerines this year, predictions are being made, on the basis of new plantings and the maturing of young groves, that Florida will be producing 150 million boxes within the next decade. The directors of Mutual are well aware of this potential and they are working towards the development of new outlets and new uses, as well as new products, and marketing programs to meet the future problems as they arise.

### Cost to Grower

This season Mutual costs the grower three-quarters of a cent a box and many producers, including some of the "die-hards" of a couple of years back, say that Mutual, because of its cautious use of price floors and allocation plans, has been a stabilizing influence all along the line, has given the trade much more confidence in the industry—and, as one prominent grower put it, has been worth "at least 50 cents a box to me for the past two seasons."

From where this writer sits, with a background of 13 years of reporting and writing on the Florida citrus industry, it appears that Mutual is "in", and is now a full-fledged, permanent "going concern."

## TOWER'S

'FISH BRAND' OILED  
SUITS and HATS  
for spraying protection  
to outdoor workers



Roomy  
and of great  
durability  
these garments  
afford the un-  
usual measure  
of comfort and  
protection  
particularly  
required by  
spraymen.

Sold by all Good Dealers

Write for Catalog AG



A. J. TOWER CO.  
BOSTON, MASS.

Only a true timing instrument  
shows ACTUAL operating hours  
... assures proper maintenance

### HOBBS Engine Hour METERS

NOT A REVOLUTION

COUNTER, but a real

clock movement, electrically operated, that shows actual hours of engine operation. It's the only SURE way to save money by timely maintenance of tractors and other powered equipment. You get longer life and lower repair bills by knowing WHEN to change oil, lubricate, inspect and overhaul. The HOBBS METER tells you when. Accurate ... precision-built ... easy to install. Low price ... satisfaction guaranteed — see your dealer or WRITE TODAY!



ORIGINALS AND MANUFACTURED EXCLUSIVELY BY  
John W. Hobbs Corporation  
2034 YALE BLVD. SPRINGFIELD, ILLINOIS

### STOP TOBACCO?



Don't be craving for tobacco as thousands have with Tobacco Reducer. Write for free booklet telling of injurious effect of tobacco and of a treatment which has relieved many men.

In Business Since 1909  
200,000 Satisfied Customers  
THE NEWELL COMPANY  
440 Clayton St., St. Louis 5, Mo.

### LEG SUFFERERS

Why continue to suffer without attempting to do something? Write today for New Booklet—"THE LEPID METHODE FOR HOME USE." It tells about Varicose Veins and Open Leg Sores. Lepid Methode used while you walk. More than 40 years of success. Praised and endorsed by multitudes.

FREE  
BOOKLET

LEPID METHODE, 3250 N. Green Bay Ave.,  
Dept. D-27 Milwaukee, Wisconsin

### Trampling Out the Vintage

A powerful story of farming on poor, overworked and eroded soil. The tragedy of erosion of habit and custom who refuse to accept modern soil management and to their own ultimate destruction is the theme of this inspiring and interesting book. Joe Conover, the author, is the Father of our present system of teaching vocational agriculture in our public schools. Many families, which the author describes have their descendants in every agricultural community. No one can read this book without becoming a better farmer and a better citizen. Send order for this book and you will receive a grape into sound and native fruit.

AMERICAN FRUIT GROWER

106 Euclid Ave., Willoughby, Ohio

AMERICAN FRUIT GROWER

## HALE CENTRIFUGAL SPRAYER

- The Hale Centrifugal Orchard Sprayer will make fruit growers money due to efficient coverage; protects quality of fruit.
- Saves time; provides volume large enough to spray as fast as tractor can run. Pumps any desired cap. up to 100 GPM @ 400 lbs.
- Saves money. Labor cost is about 1/2 for applying 500 gallons of spray compared to previous methods.
- Requires less effort. One man operation.
- Flexible . . . will handle dormant spray solutions as well as usual spray chemicals.
- Results prove Hale Sprayer Value.

To: **HALE FIRE PUMP COMPANY**  
(AF) Conshohocken, Pa.

Gentlemen: Please send me Bulletin #302 on HALE Centrifugal Orchard Sprayer. Please state No. acres in orchard or grove.

Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_  
No. Acres \_\_\_\_\_

## SPRAY HOSE



High Pressure Spray Hose. Resistant to Oils, Chemicals, Insecticides and all D.D.T. Sprays.

### 800 lbs. Working Pressure

Each length complete with High Pressure Couplings attached to fit all makes of pressure sprayers.

LENGTHS AVAILABLE	1/2"	3/4"	1"
25 Ft.	\$ 9.00	\$10.25	\$12.75
50 Ft.	16.50	19.00	24.00
75 Ft.	24.00	27.75	35.25
100 Ft.	31.50	36.50	46.50

Hose is light and flexible. Guaranteed.

POSTPAID IF CASH WITH ORDER.

**AGRICULTURAL RUBBER PRODUCTS CORP.**  
64 PARK PLACE NEW YORK 7, N. Y.

IF IT'S FOR AN ORCHARD LARGE OR SMALL WE HAVE IT. WE WOULD LIKE TO SEND YOU OUR LATEST FREE CATALOGUE.

Write to  
**TYSON ORCHARD SERVICE**  
A Complete Line of Orchard Tools  
Equipment and Chemicals  
FLORA DALE • • PA.

## KINKADE GARDEN TRACTOR

and Power Lawnmower  
A Practical Power Mow and Cultivator for Suburban Gardeners, Florists, Fruit, Nursery and Poultrymen.  
Buy Yours - Write Today  
American Farm Machine Co.  
1106 33rd Av. SE. Minneapolis, Minn.

**HUNT'S GRAFTING WAXES,  
RODENT REPELLENT, ETC.**  
MICHIGAN BEE & FARM SUPPLY  
510 N. CEDAR LANSING 1, MICH.  
"Successor to M. M. HUNT & SON"

## ORCHARD OPERATIONS CHART

SEVERAL years ago I devised an "Orchard Operations Chart" which I have found extremely useful and even necessary in keeping a record of the operations that have been completed. It also is useful for comparing with the records of previous years as it shows the dates of blooming, fertilizing, etc. I have several small peach orchards and use of this chart (shown below) helps to avoid errors in either omitting or overlapping of operations and confusion when the operation is performed by different employees.—H. J. Finch, Canada.

### Finch Farms ORCHARD OPERATIONS CHART 1950

(Note: Insert dates when operation is completed.)

Operation	Peach Orchard Number					
	1	2	3	4	5	6
Date of Operation						
Pruning	3/25	3/15	3/21	3/17		
Planting	4/4				4/4	
Fertilizing						
Dormant Spray	3/28	3/28		3/27	3/27	3/28
Pink "						
Petal Fall "						
Shuck "						
1st Cover "						
2nd Cover "						
3rd Cover "						
Harvest "						
Plowing						
Cultivating						
"						
"						
Cover Crop						
Peach Tree Borer						

## Interests Merged

The No-Wilt Plant Products Company, North Olmsted, Ohio, has recently announced merging of its interests and personnel with Newton Chemical & Supply Company, Bridgeville, Del. The No-Wilt Company was the first to introduce Plantcote, a specially prepared liquid plastic which preserves the freshness of nursery stock during transplanting. They also acted as distributors for the Alston Chem-Wand and the Hurst Aqua-Jet line of commercial spraying equipment. The Newton Chemical & Supply Co. will continue the manufacture and sale of all products now handled by No-Wilt.

## Profits and Production DEPEND ON THE TREES YOU PLANT

- BUD SELECTION
- TRUE-TO-NAME VARIETIES
- PROVED and PROFITABLE

The Greening Nursery Company, one of the leaders in bud selection, have for over 100 years given all growers the benefit of their research and improved strains which mean greater orchard profits.

### AGENTS

Earn extra money, full or part time. It's pleasant and profitable to sell Greening nursery stock. Write us today for all of the details.



Send 10c to cover postage for the Greening 100 - year anniversary 50-page color catalog.

**THE GREENING NURSERY CO.**  
P.O. Box 985, Monroe, Michigan



Spray easily—Spray thoroughly. Spray and drive your tractor—Save money with  
**HAMILTON SWIVEL GUNS**



**Our HAMILTON BOOMS**  
employing entirely new principle, deliver flat spray, (adjustable to any width) and give amazing drive. Pat. Pending.  
Write for literature

**W. L. HAMILTON & CO.**  
BANGOR, MICH.

Spray guns of all types—30 years' experience

## OPPORTUNITY ADS

Only 25c a Word—CASH WITH ORDER. Count each initial and whole number as one word. ADDRESS AMERICAN FRUIT GROWER, 106 Euclid Ave., Willoughby, Ohio

### AGENTS WANTED

WE WANT SEVERAL AGENTS WHO WOULD LIKE TO make good money in their spare time. It is easy, pleasant and profitable work selling subscriptions to AMERICAN FRUIT GROWER for over 50 years the only national fruit magazine. You will find that any one who grows fruit will welcome you. Many of our agents are now making over \$100 a month. Write to us at 106 EUCLID AVENUE, WILLAUGHBY, OHIO, for all the details on our spare-time-money plan.

### BABY CHICKS

HELM'S PULPARIUM CLEAN CHICKS, LEADING Breeds. Certified Leghorns, Brown Leghorns, holder three world records. Hatching year around. ILLINOIS HATCHERY, Metropolis, Illinois.

### BEEES

ITALIAN QUEEN BEES \$1.00 EACH. W. G. RALEY, Route 4, Montgomery, Alabama.

### CHAINS

CHAIN—TRACTOR, TRUCK, ROAD GRADER, BUS. Write for circular, give tire sizes—Frangis shipment. HORNER TRACTOR SALES, Geneva, Ohio.

### CIDER MILLS

FOR SALE: CIDER PRESSER NEW AND REBUILT, all sizes. Various and other makes; Apple Raisers and Apple Butter Equipment. W. C. HUNTER, MA-CHINERY CO., 185 Oakland St., Trenton, New Jersey.

### DOGS

IRISH SETTERS—SIX PEDIGREE AKC puppies, sired from champions. A wonderful investment in pleasure for you and your family and a fine watch dog for your orchard. Can be trained to hunt. Reasonably priced from \$20 to \$25. Write Ohio's foremost breeder of Irish Setters—MARLOW KENNEL, 475 Fairgrounds Road, Palmerville, Ohio.

### FOR SALE—EQUIPMENT & SUPPLIES

SALE ON TRADE—COMPLETE LIST OF USED tractors, graders, sprayers—including demonstrator Friend Alrbait, Buffalo Turbine, Friend Myers, Bean, different uses. AGRICULTURAL & INDUSTRIAL SERVICES, Batavia, Ohio.

FRIEND TRAILER SPRAYER, 900 TANK, 50 GAL. pump, 30 horsepower Leroi engine, vertical boom, like new, \$1950.00. Sprayer tender, 500 new cyprus tank, 110 gal. pump, trailer dual wheels, \$400.00. RAY GOTTLIEF, Paris, Ohio.

1-PTO MYERS ORCHARD OR 4 ROW POTATO Sprayer priced at \$500.00. LOWELL MEYER, Williamsburg, Michigan. 1-Iron Age Sprayer (used) 1700 on rubber, priced reasonable. KENNEY MACHINERY CORP., 301 W. Maryland St., Indianapolis, Indiana.

FRIEND AIR BLAST SPRAYER—NEW MACHINE. Demonstrated at two orchard field days. Complete with tire and two-way head. List price now \$4,950.00. Our special on this one unit only, \$2,990.00. McCUNE & COMPANY, 3721 Mahoning Avenue, Youngstown, Ohio.

BEAN SPRAY MFT. BEAN TWO-WAY CLEANER. Model 7. MOUNT FARMER, Princeton, New Jersey.

MODERN FLAME THROWER SPLITTS ROCKS, IRRIGATES, disinfects. Saves labor. Destroys weeds, stumps, 100 uses. Free Bulletin. NINE, AFE, Quakertown, Pa.

HAVING DISCONTINUED ORCHARD OPERATION, offer Niagara Duster, 4-wheels, rubber tire, 4 cylinder Novo motor, starter and generator, flexible hose, heavy gauge hopper, A 3 condition. You know what a new one costs. My price, \$495.00. McCormick-Dearing caterpillar tractor overhauled and in very good running condition. Starts easily and pulls like a new one. My recent \$390.00 repair bill put everything in shape for this tractor to give years of trouble-free service. Yours for \$250.00. Also heavy-duty orchard double-disk—make offer. Call my farm, RATTLESNORE ROAD, Gates Mills, Ohio. Phone GA 3-4867.

MYERS SPRAYER—200 GALLON TANK, 15 GALLON pump, 2 cylinder NOVO Engine, refiller, excellent rubber tires, hose hitch and tractor hitch, used one season, \$750.00. D. R. VAN ATTA SEED COMPANY, Cincinnati 25, Ohio.

FRIEND SPRAYER—33 GALLON PER MINUTE, 300 gallon wood tank, 4 cylinder Wisconsin Engine, on rubber, top and rear platform, used one season, uncracked, \$450.00. D. R. VAN ATTA SEED COMPANY, Cincinnati 25, Ohio.

### GEES

GEES WITH FRUIT KEEP DOWN WEEDS, GRASS in orchards and berries, furnish valuable additional income. Safe shipment anywhere. Catalogue, bulletin. PEYTON GOSKE HATCHERY, Duluth 2-KN, Minnesota.

### HORSE TRAINING

"HOW TO BREAK AND TRAIN HORSES"—A BOOK every farmer and horseman should have. It is free; no obligation. Simply address: BERRY, Box 304, Leona 19, HORMERMANSHIP, Dept. 1384, Pleasant Hill, Ohio.

### MISCELLANEOUS

LADIES' FACTORY DAMAGED NYLONS—\$2.50 AND \$4.50 dozen pairs! Trial assortment—15 pairs, \$1.50! All orders filled in rotation—First come, first served! Confidential, wholesale price schedule included with every order. Buy your history direct and make incredible savings! CONNELLEY HUSBANDRY, Box 304, Leona 19, Massachusetts.

MAKE MONEY ADDRESSING ENVELOPES. OUR instructions reveal how. PAUL GLENWAY, 3713 Euclid, Cleveland 3, Ohio.

REPAIR 8 DAY CLOCK'S COMPLETE INSTRUCTIONS and parts, \$1.00. THE WATCH SHOP, Wausau, Wis.

### ORCHARDS FOR SALE

110 ACRE FRUIT AND VEGETABLE FARM ON BLACK road, 50 acres tillage, balance wood and lumber, 400 apple tree orchard in excellent condition, 8 room Colonial house, 8 fireplaces, bath, furnace heat, barn with cold storage plant in basement, cider mill, 3 car garage, machinery necessary for apple and potato farm, electric lights, electric pump, excellent spring water supply, farm cultured 30 years, very successful, death reason for sale, immediate possession. THE CURTIS AGENCY, Tel. 260, Derry, New Hampshire.

120 ACRE FRUIT FARM, SOUTH OF JACKSON, MICH. on highway 127. Two modern houses, 6 and 12 rooms, 1500 apple trees, 75 sweet cherries, 2 acres strawberries, grapes, etc. 1940 acres \$200,000.00. No storage, machinery and equipment. \$50,000. HUDSON REALTY, Hudson, Michigan.

APPLE FARM NEAR UTICA, NEW YORK. 61 acres orchards, two dwellings, several barns, equipment. \$35,000. Terms. HUNTINGTON AGENCY, Waterville, New York.

TEXAS FRUIT FARM—EAST TEXAS SANDY LANDS—316 acres, 80 room modern residence rural route, electricity, school bus, chicken houses, thousand Bruce plums, thousand Elberta, thousand Frank peach bearing, well watered. Excellent for combination dairy fruit farm or watermelon and peanut combination. A money maker—only \$60.00 per acre. Write Owner J. J. PICKETT, Route 2, Minotola, Texas.

IN THE HEART OF WASHINGTON STATE APPLE, hunting and fishing country; 35 bearing acres Delicious apples, 5 acres young trees, beautiful home, WHITE AMERICAN FRUIT GROWER, BOX 119, 196 Euclid, Willoughby, Ohio.

40 ACRES—10 IN APPLES; REFRIGERATED STORAGE. E. J. YORK, Meyer, Muskegon, Michigan.

120 ACRE FRUIT FARM—LA GRANGE COUNTY, Indiana. 34 acres apples, 6 acres peaches; all top variety young bearing trees, high quality. Modern four bedroom home, barn, fruit storage, tool shed. Price, including all equipment—\$25,000. Owner retiring. All finance responsible purchaser with \$12,000 cash. KENNETH ZEIT, Realtor, 707 Fort Wayne Bank, Fort Wayne, Indiana.

### POULTRY

MOTTLED HOUDANS, MY SPECIALTY. EGGS, CHICKS, Stock, Circles, FRED BRENNON, Box A, Watertown 15, New York.

TOULOUSE & EMBLEN GOSLINGS FROM HEAVY laying stock. H. KONZERN, R.D. 1, Burlington, N. J.

RAISE TURKEYS THE NEW WAY. WRITE FOR FREE information explaining how to make up to \$3,000 in your very backyard. Address—NATIONAL TURKEY INSTITUTE, Dept. 223, Columbus, Kansas.

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TO EXPEDITE THE HANDLING OF SUBSCRIPTIONS from the Grand Rapids area, AMERICAN FRUIT GROWER has appointed Mr. Henry J. Duntzner. To save time send your new and renewal orders to: MR. HENRY J. DUNTZNER, 2519 East Blaine Avenue, S.E., Grand Rapids 5, Michigan. Please Enclose—Grand Rapids 35718.

### TRADE MARKS

NATIONAL TRADE MARK COMPANY, MURNEY Building, Washington, D.C.

### WANTED TO BUY

WANTED—UNIMPROVED FARM, RATHER CHEAP. HERBERT AYER, R. 1, Newton, Ohio.

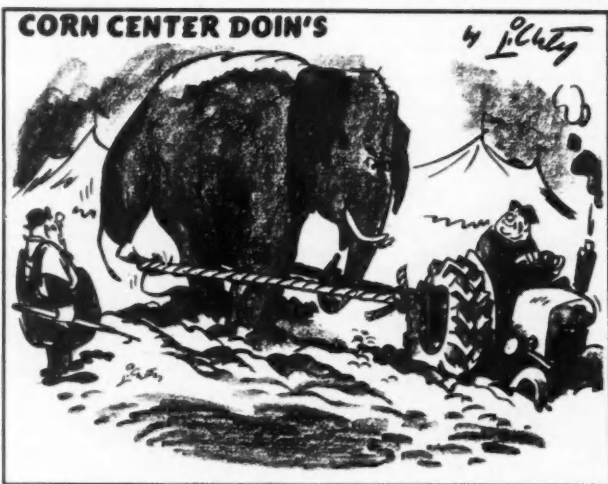
## NEW SPRAY COMPATIBILITY CHART

Reprinted in three colors on heavy stock suitable for hanging on the wall. Every fruit grower needs this chart as an accurate guide in mixing his insecticides and fungicides. Fill out the coupon below.

10c each.

AMERICAN FRUIT GROWER 106 Euclid Ave., Willoughby, Ohio	
Enclosed is 10c. Send Compatibility Chart to:	
Name _____	_____
Address _____	_____
City _____	State _____
(Offer Good only in U.S.A.)	

AMERICAN FRUIT GROWER



"Remember how we used to have the elephant pull you out  
before you got them Power-Curve tires, Lem?"

Wet fields won't stop you if your tractor is equipped with B. F. Goodrich Power-Curve tires. Each archway cleat is built to bite deeper, give you full traction in reverse as well as forward. Because Power-Curve cleats are higher in the center than those of the other two leading makes, you get positive pulling power even in the softest going. The famous BFG open center tread design means the tire

can't clog with mud. Dirt is thrown free because the whole tread is flexible—another aid to maximum self-cleaning and traction. And now farmers get up to a year's more wear from the extra tread rubber in Power-Curve tires. Compare before you buy. You'll easily see why Power-Curve tires outpull and outwear other leading makes. Remember the name—B. F. Goodrich—First in Rubber.

An advertisement of The B. F. Goodrich Company, Akron, Ohio.



# FRUIT & NUT TREES

QUALITY NURSERY STOCK  
BULBS, ROSES, VINES  
ORNAMENTAL TREES, SHRUBS  
Send for my Free Nursery Catalogue

TUALATIN VALLEY NURSERIES  
TUALATIN, OREGON, P.O. BOX 310 SHERWOOD, OREGON

**TREE EVERBEARING BLACKBERRY**  
Grown in any backyard soil or climate. Produces up to six gallons per plant. Earnings \$100.00 per acre for commercial growers. Two year old plants 3 for \$2.75, 6 for \$5.00. Special prices and literature on commercial plantings. Other Nursery Stock.  
A. E. BOOTH & SON  
WEATHERFORD, TEXAS

**Evergreen Lining-Out Stock TRANSPLANTS and SEEDLINGS**  
Pine, Spruce, Fir, Canadian Hemlock, Arborvitae, in variety. For growing Christmas trees. Windbreaks, Hedges, Fences, Ornamentals. Prices low as in such on quantity orders. Write for price list. SUGCREST EVERGREEN NURSERIES, Dept. AFG, Box 643, Johnstown, Penn.

**CONCORD GRAPES**  
Heavy-rooted 2 yr. plants will bear next year after planting. 5-45.00, 10-45.00 postpaid. 15 other varieties grapes. Also 10 varieties strawberries including Connecticut Seedling for low postpaid price list small fruit plants and trees.  
IDEAL FRUIT FARM  
Bilwell, Ohio.

**Strawberry Plants Certified**  
It is a great advantage to the strawberry grower to get strong, thrifty plants that will make plenty of new plants and lots of large fruit.  
Blakmore, Kilmore, Klondyke, Macdonary. Postage paid—100, \$1.25; 250, \$2.25; 500, \$4.00. Express collect—1,000, \$5.00; 5,000, \$23.75; 10,000 \$45.00. Robinson, Presler, Dunlap, Aroma, Twin Beauty, Tenn. Shipper. Postage Paid—100, \$1.25; 250, \$2.00; 500, \$3.00. Express collect—1,000, \$6.00; 5,000, \$27.50; 10,000, \$50.00.  
Satisfaction Guaranteed

**ROMINES PLANT FARM Dayton, Tenn.**  
NEW MINNESOTA APPLES: Those Highly Recommended Varieties—Prairie Spy Minjon, #790 Oriole. Also Erickson Apple and N. Dak. Red River crab. Low prices and save 20%. Also Latham Raspberry. Buy Now. CATALOG IS FREE. GROWERS SINCE 1915. SWEDBERG NURSERY, BATTLE LAKE, MINN.

**RED RASPBERRY PLANTS**  
Indian Summer overbearing \$5.00, hundred; \$50.00, thousand. Latham, \$5.00, hundred; \$50.00, thousand. No catalog—order today from this advertisement.  
PAYNE DANILA FARMS, Inc. Kansas City 3, Kansas

**YOU WILL WANT THESE BOOKS FOR YOUR REFERENCE LIBRARY**  
**THE PRUNING BOOK**, by Gustave L. Wittrock.....\$3.00  
Well-illustrated and easy-to-follow guide for pruning fruit trees and ornamentals. 372 pages, illustrated.  
**IRRIGATED SOILS: Their Fertility and Management**, by D. W. Thorne and H. S. Peterson.....\$5.00  
An essential reference book for fruit growers who irrigate or plan to do so. 286 pages, 74 illustrations.  
**FRUIT DISEASE SCIENCE**, by Norman F. Childers.....\$5.50  
A well-written and profusely illustrated book which deals thoroughly and interestingly with every phase of fruit growing from selection to marketing. An excellent reference book for all fruit growers. 528 pages.  
**PLANT DISEASE HANDBOOK**, by Cynthia Westcott.....\$7.50  
Includes identification, prevention and control of diseases of trees and bush fruits as well as other plants. 746 pages, illustrated.  
**GENERAL HORTICULTURE**, by Thomas J. Talbert.....\$4.00  
Principles and practices of outdoor, small fruit and garden culture. 488 pages, illustrated.  
Sent postpaid on receipt of remittance.  
**AMERICAN FRUIT GROWER**  
106 Euclid Ave., Willoughby, Ohio

# NUT GROWERS NEWS

## American Chestnuts in Newfoundland

NORTHERN nut growers will be heartened, perhaps, to hear of the success of some chestnut trees at what is probably their most northern location in North America.

A Newfoundland native, John F. Fowler, who is responsible for this new American chestnut outpost, has long been a resident of Kalamazoo, Mich. He writes: "Some 15 or 18 years ago I sent my father a dozen or so seeds from trees . . . near Oshetemo, six miles west of Kalamazoo. I asked him to plant them on our land which is at Topsail, a little summer colony just 12 miles west of St. John's. That was the last I heard about them until two years ago when father wrote that our trees had produced their first crop of a dozen or so burs.

**Trees Produce Heavily**  
"This last fall, however, he wrote telling me that the trees were loaded with them. He also asked how they were prepared for eating, and what he should do with them.

"That to you may sound like a very silly question, but knowing the general condition of the Newfoundlanders' teeth, it made sense to me.

"It was then that I wrote our College of Agriculture asking them if there was anything unusual about the American chestnut growing so far north . . . Professor F. L. O'Rourke seemed very pleased to receive my information. . . .

"The only nut I ever knew to be plentiful in Newfoundland is the horse chestnut. . . .

"I think I can assure you that the winter temperatures of Newfoundland come nowhere near those of this area in their severity. I have wondered many times why their Agriculture Department has not experimented more with things grown on the mainland . . . Now that it is a province of Canada, perhaps her progress will be more rapid in such things."

It would indeed be a progressive step if chestnut orcharding proves feasible in Newfoundland. Its isolation from mainland sources of insect pests and tree diseases is a distinct advantage. If the chestnuts continue to thrive there and the growing season allows them to mature properly, a mainland market for any surplus should be assured.—J. C. McDaniel, Sec'y, Northern Nut Growers Assn., Inc., University of Illinois, Urbana.

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## American FRUIT GROWER



America's Only "NATIONAL FRUIT MAGAZINE"

### THE SAD PLIGHT OF THE NATIONAL PEACH COUNCIL

IT'S TIME to take off the kid gloves and shake things up a bit. How does it happen that the 100-million-dollar peach industry can scrape together only a paltry four thousand dollars to support its national trade association—the National Peach Council?

What is wrong with an industry that boasts a national secretary (and a good one, too) and an annual meeting and then can scarcely make ends meet on a budget that would make most state horticultural societies look ridiculous?

To be sure, there are more organizations today than a man can keep track of. There are the PTA, the veterans' group, the local church, the soil conservation district, the chamber of commerce, the service club, the

farm bureau, the grange, and half a hundred others, at least.

But surely the trade association that represents a multi-million-dollar industry has some place in all of this. Peach growers need to stand together now as never before. The annual meeting at St. Louis is one of the best commodity group meetings in the country. The National Peach Council merits real support—national in scope.

What is wrong? Is it indifference? Is it negligence? Is it "let well enough alone?" Let's come alive and sound off. The peach industry is worth doing something about. And if this note makes somebody angry and stirs things up—then well and good. It is about time!

### THE NEW FRIEND OF FRUIT GROWERS

THERE IS no doubt but that the era of growth substances is here and that science has presented the fruit grower with a new friend. The story by Dr. Julian C. Crane on page 11 telling of the use of these chemicals in fig set and maturity are almost fantastic.

We stick tomato blossoms on, we take apple blossoms off, we root cuttings, we destroy weeds, we hasten maturity, we increase color, we prevent preharvest drop, we increase shelf-life. How far are we going to go?

It takes only a little imagination to suggest that some day we will grow only one variety of apple, and that we will spray it in July if we want the fruit to ripen then; or we will spray it in September if we want it to ripen then. And, if your dreams get the best of you, think about spraying a defoliant onto an apple tree that will remove the leaves but hold the fruit, and then rig up a vacuum cleaner attachment to harvest the fruit!

We talk in hushed tones about the physicist and the atomic bomb. Other marvels are going on around us every day, and the scientist in the field of biology is performing some of them.

Growth substances promise to be the new friend of horticulture.

### Fruit Situation at a Glance

	PRODUCTION		USDA
	Average 1939-48	1949	Mar. 1 Est. 1951
Thousand Boxes			
Oranges			
Calif., all	48,453	41,930	41,800
Navels & Misc.	18,462	15,630	14,500
Valencias	29,991	26,300	27,300
Florida, all	42,780	58,500	62,000
Early & Mid- season	23,250	33,600	35,000
Valencias	19,530	24,900	27,000
Other States	4,542	3,105	4,350
Total Early & Midseason	44,720	51,295	52,250
Total Valencias	51,357	52,240	55,300
Tangerines	3,630	5,600	4,600
Grapefruit			
Florida	26,450	24,200	31,000
Texas	18,187	6,400	7,500
Other States	6,085	5,900	5,520
Lemons	13,055	11,360	12,500
COLD STORAGE HOLDINGS			
	Feb. 28, 1946-50 Average	Jan. 31, 1951	Feb. 28, 1951
Thousand Bushels			
Apples, Fresh, Total	11,470	27,273	20,196
Pears, Fresh, Total	626	1,016	581

### FRUIT TALK

"Peschicoltura" is the title of a beautifully prepared book of 590 pages from the University of Florence (Italy), under the authorship of Professor Nino Breviglieri. Written in Italian and well illustrated, it is the most up-to-date treatise on the peach available. It contains many references to American works.

It was E. C. Auchter and J. W. Roberts, then of Maryland, who back in 1935 first reported the prevention of fruit set in apples by the use of chemicals. They used cresylic acid and tar-oil distillate effectively, but cresylic acid caused some injury to the tree. And it was Robert Manning of Salem, Mass., who reported over a hundred years ago (1835), that he had induced annual production in a row of Baldwin apple trees by removing the blossoms by hand from alternate trees.

Dr. Earl Savage of the Georgia Experiment Station says that instructions to those using parathion in Georgia orchards include the admonition, "Don't smoke and don't eat watermelon."

Beacon is replacing Duchess as an early apple in the Middle West, according to Dr. H. L. Lantz of Iowa.

Coronado and Vivian are two new clingstone peaches from California, introduced jointly by the USDA and the California Experiment Station—originated by W. F. Wight (retired USDA worker). Coronado is midseason (10 days before Fortuna) and Vivian is later (5 days after Fortuna)—thus maturing at seasons needed by the canning industry.

Lynn Hawthorne of Louisiana makes a good point when he comments on made-to-order fruits. He recognizes the plant breeder as important, but he also places great responsibility on the grower to produce the variety where and in such a way that it will meet consumer demand.

—H.B.T.

### COMING NEXT MONTH

- Getting the Most Out of Orchard Help
- New Ideas for Housing Fruit Workers
- The Little Garden Tractor Is a Mighty Labor Saver
- The Automatic Raspberry Harvester

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